DOCUMENT RESUME

ED 185 892 HE 012 515

AUTHOR	Gross, Ronald
TITLE	Future Directions for Open Learning. A Report Based on an Invitational Conference on Open Learning Programs.
INSTITUTION	University of Mid-America, Lincoln, Nebr.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Dec 79
GRANT	NIE-G-75-0001
NOTE	78p.; Based on the Conference on Future Directions for Open Learning (March 8-9, 1979)
AVAILABLE FROM	National Institute of Education, Washington, DC 20208 and Superintendent of Documents, US Government Printing Office, Washington, DC 20402
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Administrative Organization; *Adult Education; Community Colleges; Correspondence Study; *Educational Technology; Educational Television; *External Degree Programs; Futures (of Society); Higher Education; *Lifelong Learning; *Mass Media; *Nontraditional Education; Open Universities; Outreach Programs; Postsecondary Education; Program Descriptions; Success
IDENTIFIERS	Appalachian Educational Satellite Project; Coastline Community College CA; Community Service Network; Dallas County Community College District TX; Miami Dade Community College FL; State University of New York Empire State College; University of California San Diego; University of Mid America NE

ABSTRACT

The expansion of higher education in the United States has resulted in a variety of outreach programs to bring postsecondary education off the campus and into the community. New systems and programs of nontraditional study have emerged. Issues of current concern in open learning include: quality and effectiveness, outreach and access, research and evaluation, economics (costs, benefits, productivity, and obtaining support), implications of emerging technology, public policy, and cooperation and collaboration. The trend toward lifelong learning brings with it new possibilities for educational technology and the mass media, as well as a challenge to postsecondary educators. It is noted that in the United States citizens get much of their information from the mass media, and that harnessing this potential for learning is the great challenge for education in the near future. The experiences of six individuals with open learning programs are highlighted throughout. A list of references is included. Appended are basic data on seven participating projects (the Appalachian Education Satellite Program and Community Service Network, Coastline Community College, Dallas County Community College District, Empire State College, Miami-Dade Community College, Open College, the University of California at San Diego, and the University of Mid-America), a list of factors that help or impede learning projects, and an executive summary of the joint conference on research needs in adult learning in March 1979. (SE)

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Future Directions for Open Learning

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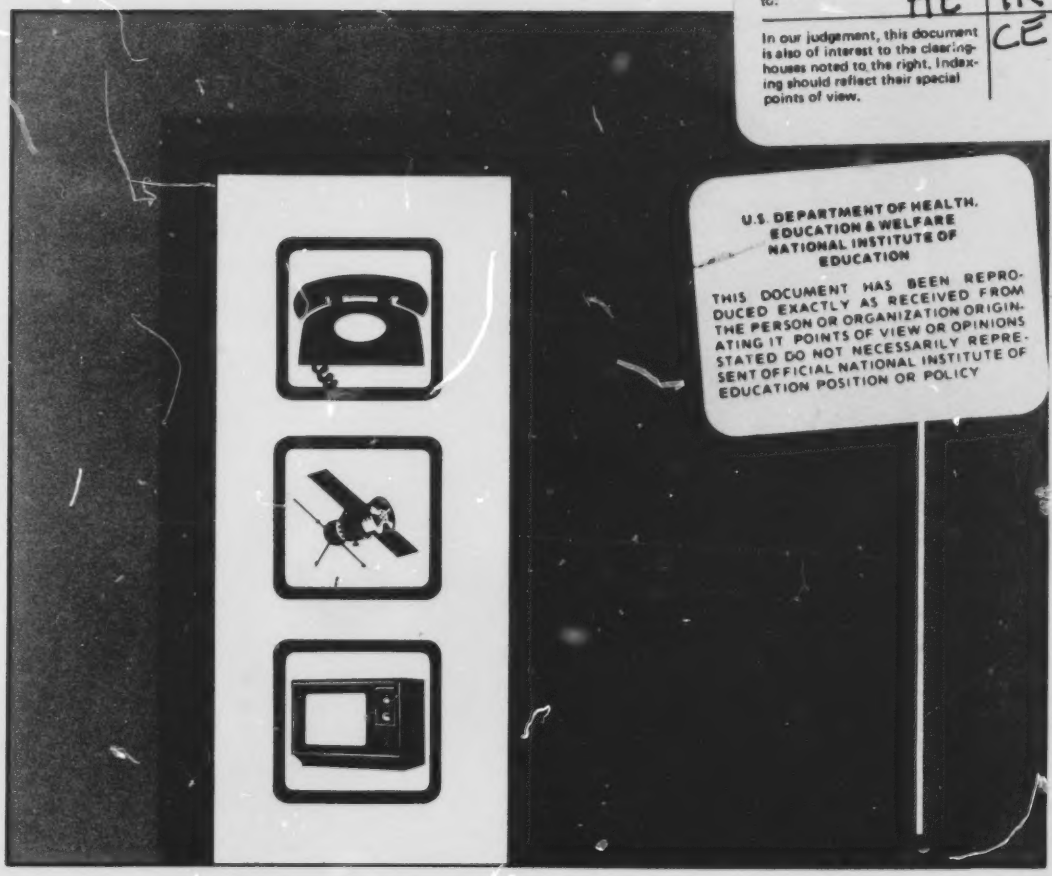

The National Institute of Education
U.S. Department of Health, Education and Welfare
Washington, D.C. 20208

HE 012 515

FUTURE DIRECTIONS FOR OPEN LEARNING

A Report Based on an Invitational Conference on Open Learning Programs

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December 1979

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

MAR 31 1980

This publication was prepared with funding from the National Institute of Education, U.S. Department of Health, Education, and Welfare, under grant no. NIE-G-75-0001. The opinions expressed in this publication do not necessary reflect the positions or policies of NIE or HEW.

FOREWORD

The "Future Directions for Open Learning" conference, highlighted in this report, reflects an encouraging trend toward cooperation and collaboration among institutions engaged in nontraditional educational programming for new audiences in postsecondary learning.

Even more important, perhaps, is the fact that this conference was held at the start of a period that may well prove to be a time of major transition for the movement that has come to be known as "Open Learning."

This report, for example, summarizes 15 major operational projects or studies being conducted in 1978-79 on the subject of adult learning and television, which constitutes just one segment of the Open Learning enterprise.

In the wake of the second Carnegie Commission report, both the Public Broadcasting Service (PBS) and the Corporation for Public Broadcasting (CPB) appear headed for reorganization and perhaps restructuring. New FCC laws have been considered. Cable systems, including those with interactive capabilities, are growing in astronomical proportions. Satellites have emerged as tools in everyday communication. Videodisc players are on sale in test markets, and consumers are lining up to buy them. The energy shortage has made people far more aware of the delicacy of the American dependence on the automobile. The economic crunch is turning the heads of college and university presidents toward more cost-effective ways of delivering educational opportunities.

"The Open Learning Movement," as Ron Gross insightfully writes in this report, "seems poised for a major step forward."

One of the steps proposed by the participants in this conference was the creation of an umbrella agency, or association, under which those in the Open Learning Movement might promote cooperative activities to further their mutual interests. A small subcommittee was asked to develop a statement of purposes and governance for what has tentatively been labeled the Open Learning Alliance. A draft statement of purposes suggests that the Alliance "encourage, promote, and develop Open Learning systems in all their forms, including distance learning, nontraditional study, and mediated instruction," and it places particular emphasis on "collaboration and cooperation among institutions, organizations, broadcasting stations, and consortia dedicated to the advancement" of Open Learning. Among functions proposed for the Alliance are information sharing, public policy development, public information, collaborative production, joint research, cooperative marketing and distribution, and exchange of ideas and knowledge through training and staff development activities.

Initial responses to the Alliance idea have been mixed. Some organizations that might be natural participants, for example, have expressed fear that the formation of the Alliance would superimpose another entity on established groups organized within the framework of existing national associations. On the other hand, my contacts with some of the foundations that have supported Open Learning programs in the past have uncovered a high degree of enthusiasm for the idea, particularly since it proposes to consolidate in one organization the major actors in the field of Open Learning and Nontraditional Study.

Whether the particular Alliance idea survives probably is less important than the precedent for cooperative endeavors established by the fact that the Future Directions conference was held and that it brought together for the first time a number of institutions that share a common purpose—breaking the barriers of time and place so that large numbers of Americans can take advantage of postsecondary educational resources.

I was pleased to learn that the conference introduced to each other some agencies that had not had any contact before and has led since to greater sharing of information and ideas among those who participated. But I am also convinced that the time is right, as Ron Gross has put it, for "a major step forward," and I am equally convinced that the individuals and institutions interested in serving nontraditional audiences can no longer simply go their separate ways.

The major national policy discussions related to the reorganization of CPB and PBS, for example, or the reauthorization of the Higher Education Act, are just two of many cases in point. Both of these alterations in Federal policy will transpire, with or without the advice and counsel of the actors on the Open Learning stage. Nontraditional education—and the millions of students it serves—must be represented in those discussions. Institutions will continue to conduct research, plan projects, and produce instructional materials, with or without cooperative approaches. By themselves, they will duplicate by default some of the precious resources expended. Together, those resources can be applied to common tasks.

The conference reported here represents one important step in the joint activities that will be required as we face the challenges of serving future learners in all parts of the nation. At the University of Mid-America, we hope that the information reported here will be of benefit to other agencies who are seeking to be responsive to those challenges.

Donald R. McNeil
President
University of Mid-America

July 20, 1979

INTRODUCTORY NOTE

The Conference on Future Directions for Open Learning summarized in this report was one of three planning and evaluation projects undertaken jointly by the University of Mid-America (UMA) and the National Institute of Education (NIE) to provide a perspective on UMA's previous work and to gather information to guide the development of the UMA program into the future.

In this effort, UMA and NIE invited representatives from seven major Open Learning projects in the United States, one from Canada, and several from other organizations interested in the development, or delivery, of mediated instructional materials to a conference designed to focus on the future of the Open Learning Movement.

A background paper was commissioned to provide participants with information on each of the seven projects and to outline some of the major issues facing the movement into the 1980's. That paper was then supplemented by the discussions that ensued during the conference. (Excerpts from the conference itself are set off in this publication with a blue screen.)

In the other two efforts, UMA and NIE hosted a Conference on Adult Learning Research and commissioned a third-party evaluation of the extent to which the UMA experiment has increased access to postsecondary opportunities in the seven-state region directly served by the program.

A separate paper has been produced on the research conference; a summary is included as an appendix to this publication. The full paper is available through University of Mid-America offices in Lincoln, Nebraska. The evaluation of access issues will be completed in calendar 1980.

Charles B. Stalford
National Institute of Education
UMA Project Officer

ACKNOWLEDGMENTS

The author acknowledges the generous help of the following persons in providing materials and/or in reviewing parts of this manuscript: Douglas Bodwell, Corporation for Public Broadcasting; Michael Boyle, Appalachian Satellite Project; Dee Brock, Dallas County Community College District; Martin Chamberlain, University of California at San Diego; Thomas Gripp, Coastline Community College; James Hall, Empire State College; Terrence Kelly, Miami-Dade Community College; Marilyn Kressel, American Association of Community and Junior Colleges; Norman Kurland, New York State Education Department; Jerome Lord, National Institute of Education; Bernard Luskin, Coastline Community College; Donald McNeil, University of Mid-America; Joseph Michalak, The New York Times; Rexford G. Moon, Jr., Future Directions for a Learning Society; Kiki Munshi, University of California at San Diego; Helen Newton, TV Guide; Rodger Pool, Dallas County Community College District; Charles Stalford, National Institute of Education; Milan Wall, University of Mid-America; Ruth Weinstock, Educational Facilities Laboratories; and James Zigerell, American Association of Community and Junior Colleges.

For critically reviewing the entire manuscript, special thanks to Robert D. B. Carlisle; Marilyn Kressel, American Association of Community and Junior Colleges; and Kiki Munshi, University of California at San Diego.

This paper draws from my prior writings and research supported and/or published by the Ford Foundation, the Society of College and University Planners, Educational Facilities Laboratories, the U.S. Office of Education, Change magazine, TV Guide, the Federal Interagency Committee on Education, the Adult Education Association of the United States, the Public Affairs Committee, Phi Delta Kappa, and Future Directions for a Learning Society (The College Board).

Note: The human impact of Open Learning programs on the lives of individual adult students is photographically illustrated throughout this report by portraits taken from "ITV—Close-up: The First Six Years," Dallas County Community College District, 1978. Copyright © DCCCD and used with permission.

Notes to the Text: To avoid peppering the text with footnotes, the notes to the text, including bibliographic references for quotes, appear at the end of the paper.

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"In my 25 years' experience in this field, I cannot recall a time when there was greater receptivity to open learning among mainstream higher education institutions."

James Zigerell,
American Association of Community and
Junior Colleges

"For some of us, it's collaborate or die."

Robert McCabe,
Miami-Dade Community College

"We must distinguish the Romance from the Reality in Open Learning."

Charles Stalford,
National Institute of Education

"I'd rather beg for forgiveness than seek permission."

Harold Morse (quoted from St. Augustine)
Appalachian Education Satellite Program

Part I

THE OPEN LEARNING MOVEMENT

THE OPEN LEARNING MOVEMENT

No nation has gone further than the United States in offering a college education to everyone who wants it. The land-grant college movement of the 19th century, the development of community colleges, the G.I. Bill after World War II, and the recent attempts to ensure every high school graduate a chance to attend college—all testify to a national commitment to broaden the paths to higher learning.

But while a college education has been opened to more and more people, it has conformed, with rare exceptions, to the same basic pattern. Four years during one's late teens and early twenties are devoted to taking courses on a campus, studying for tests, writing papers, and enjoying a diverting social life with other young people. During this period one is supposed to learn largely by being taught, in a classroom, by instructors and professors. The process is completed when one has accumulated some 120 credits, at which time the award of a diploma signifies the completion of one's education and the "commencement" of life itself.

This pattern can no longer accommodate the changing conditions in American life and society. Alternative ideas about the nature and function of a college education—some stemming from the commotions of the sixties, some growing out of the conditions of the seventies—are reshaping the campus.

Over the past several years major policy statements about higher learning have consistently stressed the need for these new priorities. The highly influential Newman Reports in 1971 and 1973 concluded that "we must enlarge our concepts of who can be a student, and when and what a college is. We need many alternate paths to an education." The Carnegie Commission, which under the direction of Clark Kerr carried out the most comprehensive reconsideration of American higher education to emerge from the turmoil of the 1960's, likewise recommended that "post-secondary education take more forms . . . concerned comparatively less with the welfare of a minority of the young and more with that of a majority of all ages."

Events have caught up with these predictions and recommendations. On the one hand, as Harold Hodgkinson, former director of the National Institute of Education, notes, "We are simply running out of kids to teach." On the other hand, there has been a massive return of adults to education: middle-aged women seeking to break out of their homemaking roles and into the wider world of work and culture; mid-career executives trying to keep up with advances in their field or explore new careers; and a varied group, ranging from full-time working people to convicts and the handicapped, who missed out on college and want it now.

Increasingly, faculties accept these new demands rather than disdaining them as they did in the days when evening-school students were second-class academic citizens and the correspondence course was an object of derision. The budget crunch on most campuses has driven home the point that the long-term survival of many colleges and universities depends on a new clientele.

But to serve these new students properly—indeed, simply to attract them as paying customers—colleges have had to develop new ways of teaching. Millions of American adults want to continue their education, but most of them find traditional programs rigid, inconvenient, and expensive. Adults with full-time jobs and family responsibilities cannot usually come to the campus for regular classes. Nor are they (and many of today's regular students for that matter) as tractable as an earlier generation of students about fulfilling requirements they feel to be irrelevant to their goals and circumstances.

The result has been the emergence of new forms of postsecondary education—local and national telecourses, courses by newspaper, contract learning programs, universities without walls, external degree programs—the "Open Learning Movement."

What Is Open Learning?

"Open Learning" is an umbrella term covering a wide variety of programs, institutions, and ideas. Generally, Open Learning is used to refer to systems that reach out beyond the campus, often by using television and other mass media to bring instruction to learners wherever they are. The oft-associated term "Nontraditional Study" usually denotes individualized ways for students to pursue higher learning, such as the "learning contracts" used by the University Without Walls and Empire State College. But both terms are used rather loosely in the field. Diversity has been a characteristic of this movement from the beginning, and it continues to breed new kinds of services, such as educational brokering, that defy categorization.

Both Open Learning and Nontraditional Study have defied exact definition. The most widely cited guiding principles of Open Learning were developed in the 1974 report of the National Association of Education Broadcasters, "Open Learning." For Nontraditional Study the touchstone was formulated by the Commission on Nontraditional Study in its final report, "Diversity by Design," in 1973.

Characteristics of Open Learning Systems (NAEB)

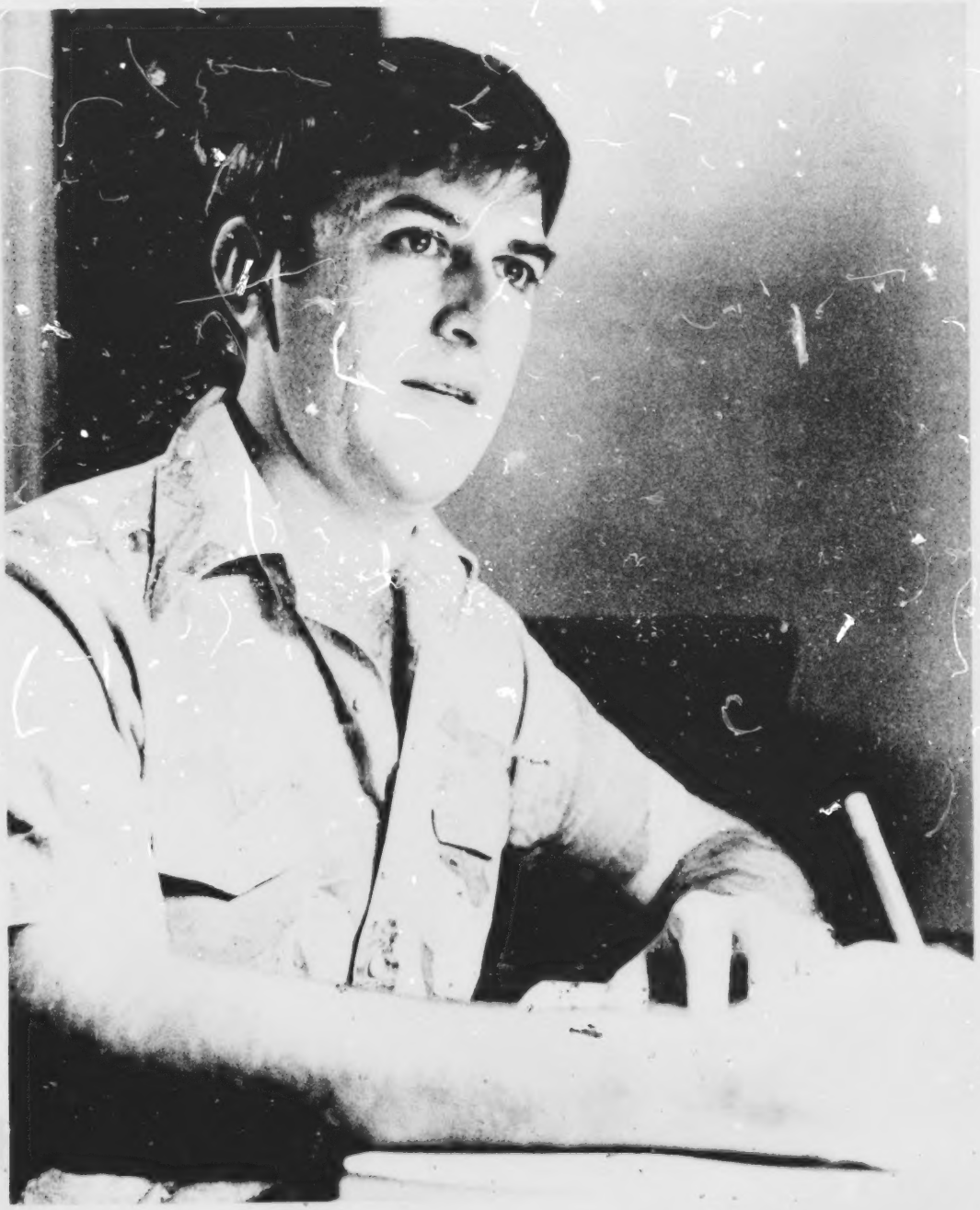
The system must guide a student by eliciting, interpreting and analyzing goals at the begin-

ROMANCE AND REALITY IN OPEN LEARNING

Charles Stalford of the NIE opened the conference with some penetrating remarks about what has and what has *not* been achieved in this field over the past 10 years—and the prospects for the future including the NIE's possible role:

> We need to distinguish the Romance from the Reality in this field. The Romance, as I call it, is that millions of Americans are itchy to twiddle their dial to learning if it's just made available via TV. The Reality, we have discovered, is that the demand for Open Learning has been systematically *over*-estimated, that it is clearly *not* the answer for everyone, and that when asked in polls to compare different modes of learning, Americans tend to put TV-based instruction near the bottom of the list. And that's despite the fact that the classroom, for many of them, probably represents a scene of remembered anguish and frustration.
>
> We don't really know yet what are the best methods to deliver services—in part because the research money to find out has not been available. But we don't have systematic information on what components are effective, for example, or on what interactions of adult learning styles and program characteristics are either feasible or desirable. Lacking these, all of us engaged in Open Learning are often "flying by the seat of our pants." I nonetheless am aware of your energy and vision, so amply displayed in your various programs, and the contribution you make towards keeping a brighter vision of the future before us all.
>
> I should point out that NIE has raised the priority it is giving to postsecondary and adult education. Increasingly, guidelines are being written to permit or to specifically invite proposals in these areas. At present, more than 20 percent of its budget is allocated here, a proportion that has been growing gradually over the past few years.

For further information about current funding opportunities at NIE, write to the Institute at 1200 19th Street, N.W., Washington, DC 20208, requesting *Funding Opportunities at NIE*.



One reason FERNANDO GONZALEZ enrolls in telecourses is that he wants to be taught by well-known professionals, the experts in their fields.

Another reason is his erratic work schedule. As a surgical nurse, he must always be available to assist in the operating room. His job makes it impossible for him to attend on-campus classes. With telecourses, however, he never misses calls from his work, nor does he miss out on finishing his education.

"I can stay home and study at my own pace, at my own desk, in my pajamas with a good cup of coffee," he says.

And when he is called away to work, he doesn't have to worry about missing any lessons. "I am able to tape entire programs, which is a great advantage because I can then replay them as many times as I want," the 33-year-old bachelor explains.

He believes it takes great self-discipline to complete telecourses. "You must truly apply yourself and study with TV courses," he says. To Fernando, that means studying every day to reach his goal: a Bachelor of Science degree.

ning point and throughout the student's contact with the program of instruction.

The system must formulate learning objectives in such a way that they serve as the basis for making decisions in instructional design, including evaluation, and in such a way that they will be fully known to, accepted by or capable of modification by students.

The system must facilitate the participation of learners without imposing traditional academic entry requirements, without the pursuit of an academic degree or other certification as the exclusive reward.

To provide the flexibility required to satisfy a variety of individual needs, the system should make it operationally possible to employ sound, television, film and print as options for mediating learning experiences.

The system should use testing and evaluation principally to diagnose and analyze the extent to which specified learning objectives have been accomplished. In other words, the system should be competence-based.

The system must be able to accommodate distance between the instructional staff resources and the learner, employing the distance as a positive element in the development of independence in learning.

Characteristics of Nontraditional Study (Commission on NTS)

Nontraditional study is more an attitude than a system and thus can never be defined except tangentially. This attitude puts the students first and the institution second, concentrates more on the former's need than the latter's convenience, encourages diversity of individual opportunity rather than uniform prescription, and de-emphasizes time, space, and even course requirements in favor of competence and, where applicable, performance. It has concern for the learner of any age and circumstance, for the degree aspirant as well as the person who finds sufficient reward in enriching life through constant, periodic or occasional study. This attitude is not new; it is simply more prevalent than it used to be. It can stimulate exciting and high-quality educational progress; it can also, unless great care is taken to protect the freedom it offers, be the unwitting means to a lessening of academic rigor and even to charlatanism.

Perhaps the most important common characteristic of Open Learning/Nontraditional Study projects is an aspiration to meet new needs of individuals and of society by devising new forms to serve new learners in new ways. Basically, what we are talking about is a congeries of vigorous impulses in American higher education to welcome-in more and different people, particularly part-time adult students, and provide them with ways to learn that fit their needs and circumstances. In practice this means developing a range of new options, from broadcast instruction to individualized external degrees, and new services such as credit banks, credit for prior learning, and degrees by examination. Such arrangements aim to broaden access, introduce flexibility, increase the choices and alternatives for students, and tailor teaching to the individual.

*The mass media clearly have a critical role to play in achieving the "openness" of Open Learning.** Joseph Lipson, current Director of Science Education, National Science Foundation, has put the reason well:

> Television, radio and newspapers have a large and unused capacity to bring people important ideas in a variety of contexts. As media that reach almost all adults in their normal daily lives they are particularly adaptable to the goals of lifelong learning. The British Open University, Courses by Newspapers, the University of Mid-America and other projects have shown that mass media materials can be used by formally enrolled students as well as by impressive numbers of informally interested students. Conversely, a lifelong learning system that does not make systematic and effective use of the mass media is liable to continue to serve those already best served, the elite at the expense of the poor, those able to attend scheduled classes, etc.

The Present Moment in Open Learning

The Open Learning Movement still looms small in the total landscape of American higher education as seen by influential observers. "Reports to the effect that higher education is being revolutionized by technology are, to say the least, highly premature," wrote Change magazine in a 1976 editorial comment on the movement. "This is not to say that educational technology may not in time play a role. But that time has clearly not come. And the problem is not with technology *per se*, but with related matters, such as the often extraordinarily high costs relative to learner benefits and the relatively sparse proof that media-based learning is any more effective than traditional approaches."

In an even more recent comment directed specifically at Open Learning projects, Change wrote: "The American taste for such approaches has con-

* The particular benefits and problems entailed in broadcast telecourses, as perceived and evaluated by colleges and by pubic television stations, will soon be available as one outcome of the survey work of the Station-College Executive Project in Adult Learning.

siderably soured, an outcome triggered by the four modest OU transplants and by other formidable but piecemeal projects such as the UMA, courses by newspaper, the College of the Air, and correspondence study. These less than spectacular successes must be seen against the backdrop of . . . the general disinclination of public and commercial networks to broadcast instructional courses."

Similarly, New York Times education analyst Gene Maeroff wrote in 1977: "Since television's earliest days, hopes have been raised by the prospect that the schools might harness television's educational potential and create a revolution in formal learning. It has never happened. Educators have been unable or unwilling to take the giant steps needed to incorporate television—and other instructional technologies—into the schools in a way that would have deep and pervasive effects on the contents and methods of formal education." (The context makes it clear that the reporter is thinking mainly of higher education, despite his use of the term "schools." The recent CPB study, reported in the Times of March 27, 1979, shows that ITV instruction affects 15 million children.)

Finally, the Ford-funded series on "Communications Technologies in Higher Education," perhaps the most diligent and detailed look at the field, concluded its initial series of project profiles with the observation that "the oracles who predicted a revolution in the classroom through technology were wildly off the mark. . . . But it is equally clear that there are pockets of activity around the country where revolutionary happenings are taking place. They are the products of communications technology harnessed to instruction—and these are changing the classroom. The most dramatic and conspicuous among them is the opportunity to learn without the necessity of being on a campus, with the result that access to education has been created for new constituencies of learners who would otherwise have had to do without."

Despite this marginality to the mainstream, the Open Learning Movement seems poised for a major step forward. "Telecourse Boom Hits Community Colleges" was a Chronicle headline last year. "New 'visually sophisticated' offerings for off-campus study available at more than 250 institutions," read the subhead. Even Newsweek noted the hoopla over telecourses at last year's annual meeting of the American Association of Community and Junior Colleges.

The momentum may be maintained. Within the profession, a number of major initiatives, in addition to the UMA/NIE Conference and related activities, have begun, and several national associations of postsecondary institutions have established task forces to look into the field and plan for the future. The following page contains an inventory of such projects prepared for the SCEPAL project (the first one listed) by Peter Dirr of the Corporation for Public Broadcasting.

A VETERAN PARTICIPANT'S PRIORITIES

Few leaders in the Open Learning Movement can match the experience of Jack McBride, long-time operating head of the University of Mid-America and currently general manager of KUON-TV and of the Nebraska ETV Network. McBride stressed the following future directions for Open Learning at the conference:

- There is need for many more quality Open Learning courses than are currently available. Since Open Learning delivery systems must pay their own way, there must be increased learner tuition, which can come only from additional courses.
- There is a great need for the few serious producers of Open Learning courses to pool resources and thereby produce additional high quality products. This means both strengthening existing cooperative efforts and finding new ways to cooperate.
- Despite the shortcuts possible, considerable cost, time, and complexity are required for the development of high quality Open Learning materials.
- New ways must be found to finance Open Learning courses since significant additional funding is needed for the production of Open Learning courses.
- Those seriously interested in Open Learning must find additional ways to change traditional thinking—thinking on the part of faculties, post-secondary administrations, public television station personnel, and adult education personnel.
- Open Learning can move a quantum step forward as it learns to make use of the new technologies: cable, videodiscs, cassette, satellite, and public radio.
- Despite the problems of Open Learning, we are working in a time of ever-increasing receptivity. More and more are becoming interested in the potentials of Open Learning.

1978-79 PROJECTS AND STUDIES IN ADULT LEARNING AND TELEVISION

Sponsoring Agency	Title/Description
1. Corporation for Public Broadcasting (CPB)	*Station-College Executive Project in Adult Learning (SCEPAL).* Designed to increase the number of stations broadcasting adult learning series and the number of colleges offering credit for those series.
2. Public Broadcasting Service (PBS)	*Adult Learning Task Force.* Recommended to PBS management a funding mechanism to ensure systematic availability of adult learner series through the public broadcasting system. Also recommended the establishment of a clearinghouse on available adult learner series and those in planning/production stages.
3. Central Educational Network (CEN)	*Council on Adult Learning.* Currently in its formative stages, this council is envisioned as paralleling the K-12 Council, including representatives from each of the states in the CEN region. Will seek to provide region-wide adult learner programs by broadcast and non-broadcast distribution through a group rental process. Also plans to establish regional library of adult learner programs.
4. American Association of Community and Junior Colleges (AACJC)	*Mass Media Task Force.* Group composed primarily of two-year colleges that produce telecourses. Purpose is to work cooperatively to increase the use of telecourses and to avoid duplication in production efforts.
5. American Association of Community and Junior Colleges (AACJC)	*Telecourse Utilization Project.* Under a grant from FIPSE, college personnel and TV broadcasters will meet to examine policy issues that relate to the offering of broadcast telecourses by two-year colleges.
6. College Producers (UMA, Coast, Dallas, Miami-Dade)	*User Orientation Workshops.* A series of three regional (West, Midwest, East) workshops was held in February 1979 to acquaint potential users with available telecourses and how they might be used. A fourth workshop was held in Chicago in April.
7. Public Broadcasting Service (PBS)	*University Licensee Committee.* Group established to study problems related to the administration and management of university licensees. Meetings held in 1979.
8. Eastern Educational Television Network (EEN)	*Planning* a survey of member stations that will help determine future directions for adult learner services of the network.
9. Corporation for Public Broadcasting (CPB)	*Listing of Educational Series Broadcast by Public Television Licensees in 1978-79.* Listing contains 268 post-secondary series.
10. Alliance for Open Learning	*A new group proposed at this conference.* Purpose would be to encourage the development and advancement of Open Learning systems (including telecourses).
11. Other Projects	*The Maryland Center for Public Broadcasting* is proposing a formal adult learner service (Intergalactica University) modeled after the British Open University system. With a grant from FIPSE, the San Franscisco Diocese has established the Senior University for the Bay Area to provide specialized programs for senior citizens.

The Joint Council on Educational Telecomunications (JCET) also has a study in process to document the needs and opportunities for educational telecommunications. Conducted by Chalmers H. Marquis, former vice president of PBS, with financial support from three JCET member organizations (CPB, Agency for Institutional Television (AIT), and the Great Plains Library), the project will analyze present and potential sources of funding from government, foundations, and the private sector, with particular emphasis on presently untapped areas such as mission-oriented programs.

By the end of this year, as a result of these studies and other ongoing work in the field (such as the report of the Task Force on Education and Technology to the Commissioner of Education, submitted in February), much more will be known and far more should be possible in this field. The people who must make the critical decisions, if Open Learning is to move to the next level of acceptance, will have been well informed and motivated. Key executives in both higher education and public television will have been exposed to the accomplishments, promise, problems, and challenges of Open Learning. Funding sources will have been surveyed. Benefits and problems of using telecourses will have been debated. Success and failure factors will have been identified. Adults learners' needs will have been reviewed and projected. Existing patterns of cooperation and collaboration will have been examined afresh and planned for the future. The economics and administration of telecourses will have been probed.

There is growing recognition that the larger Nontraditional Education Movement, of which Open Learning is one component, is the wave of the future. "The number of people served, the money spent, and the political commitment today is toward nontraditional education and away from traditional higher education," says Warren Bryan Martin, who as vice president of the Danforth Foundation certainly understands the academic environment. "It is unlikely that the traditionalists will be restored to their former position of control. Despite current curiosity among traditionalists about lifelong learning as well as signs of sociopolitical conservatism in the country, it is more likely that these traditionalists will be pushed into ivied but isolated enclaves while the nontraditionalists surround them."

Asking the Right Questions

Open Learning is still a youngster. None of the programs described in this report has been operating for more than 10 years. All are still exploring and experimenting, and strategies and techniques are still being sought and refined.

None of the men and women pioneering in Open Learning claims that these new projects are the answer to all the problems of American higher learning. But the conviction seems to run deep that they are struggling with the right questions:

- How can higher education better fulfill its roles of helping people achieve better lives and advancing toward a more humane society?
- How can people of all ages and circumstances be offered their fair chance at a college education?
- How can powerful modern media be harnessed for educational use?
- What does a college education become when it grows out of a student's distinctive pattern of concerns, strengths, and aspirations?
- How can higher education and "real life" be integrated better?
- How can students benefit from the other educational resources in their community?

FROM THREE COURSES TO AN ENTIRE DEGREE VIA TELECOURSE—IN SEVEN YEARS

Bernard Luskin of Coastline reminded conferees of how far Open Learning has come since 1972, when an Arthur D. Little study concluded that there were only three telecourses worth using out of all that had been produced throughout the country. Most conferees agreed that today there is virtually an entire associate degree program available on high quality programs. "Indeed," noted James Zigerell of the AACJC Task Force, "anyone who examines our recent catalog of mass-media courses may be surprised at what it contains. He or she will discover that there is now available a library of video courses extensive and broad enough in scope to allow an adult to complete a two-year college program at home. One thing more about the video library deserves mention: the courses are more than first-rate instruction; they are also attractive television fare."

CONFEREES DIFFER ON ACCEPTANCE OF OPEN LEARNING

How well-accepted is Open Learning by academe today? Differing perceptions were offered by different conferees, ranging from optimism to apprehension. Martin Chamberlain of the University of California at San Diego, noting that his project's TV "wrap-arounds" and Courses by Newspaper have been used by one quarter of the nation's colleges and universities, sees more acceptance than one would have expected among four-year institutions. And Harold Morse saw great promise in the satellite's capacity to deliver educational programming directly into the homes of millions of Americans.

On the other hand, Bernard Luskin cited continuing resistance and predicted that more of it will emerge as academe suffers declining enrollments and exacerbated internal pressures. And Charles Stalford noted the gap between the romantic hope that millions of Americans would flip their dials to Open Learning once it became available and the low preference given to this form of learning by most people polled.

ANNIE B. SMALLWOOD had last attended school in the early fifties before enrolling in her first telecourse. At 40, she was apprehensive about returning to college after such a long time. Although she was already a certified operating room technician, she wanted to obtain her nursing degree.

Five telecourses later, Annie now encourages those who want to attend college for the first time to try telecourses.

"People my age should go back to school to keep in touch with the times," she says. "This is the opportunity I've always wished for. It's like mental first aid. Telecourses give me a different outlook on life. They've really improved my sense of my own value."

Currently enrolled in business and psychology on TV, she has had to drop two on-campus classes because of transportation problems, but she will be able to complete the telecourses at home.

Annie B. Smallwood has found instructional television a good way to tune in to her career goals.

Part II

ISSUES IN OPEN LEARNING

This section provides background on some of the most important conclusions and expert opinions on the seven major subjects discussed at the conference.

- Quality and Effectiveness
- Outreach and Access
- Research and Evaluation
- Economics: Costs, Benefits, Productivity and Obtaining Support
- Implications of Emerging Technologies
- Public Policy Issues
- Cooperation and Collaboration

A. QUALITY AND EFFECTIVENESS

Concern over *quality*—both *control* and *improvement*—is much more evident in Open Learning projects than it is in the conventional teaching that goes on in most college classrooms. The *visibility* of televised lessons, the *team approach* to creating support systems, the *constant scrutiny* of retention rates and success or failure in learning outcomes—all conduce to higher quality than is customarily sought or obtained by disciplinary departments that take teaching quality pretty much on faith once instructors achieve tenure.

Nevertheless, the issue of "quality and effectiveness" continues to haunt the Open Learning Movement—both from within and from without. Consider these recent article titles:

- "Educational Television Is Not Educating"
- "Lifelong Learning: Scandal of the Next Decade?"
- "Life Experience—An Academic Con Game?"

These three titles of articles published within three months in Change magazine suggest a concern that was predictable. The report of the 1976 National Conference on Open Learning and Nontraditional Study also cited the quality and effectiveness issues as the "chief cause of concern" in the movement.

Further caution regarding the issue comes from two educational leaders, one from Israel, the other from the United States. Max Rowe of Israel's Everyman's University has asserted, "I fear that if there existed a standards institute for Open Learning, as there exists for canned vegetables, some of us might soon be out of business." The issue was summed up by D. B. Varner, former president of the University of Mid-America. "I cannot stress too vigorously, nor too often, my concern about the quality of the course materials we produce and offer to the public. . . . Monitoring quality . . . has been the historical role of faculties on the campuses, and we are now working, for the most part, without the benefit of this thoughtful, deliberate mechanism of insuring quality. If we are not utilizing this technique of assuring quality, then it is incumbent on all of us to replace it with something that will assure the same kind of safeguards. I suppose I am a bit concerned about consumer protection in off-campus education, simply because there is a lot of fraud already. There is much that is good, but there is also much that is bad, and the bad will tarnish the good."

Quality control is often seen as essential to the acceptance of Open Learning by the mainstream of American higher education. As David Goodwin has put it:

> The prospects for long-term durability and stability in Open Learning will be improved as such programs are encouraged to abandon their experimental status and move into the mainstream of educational institutions. To do so requires that Open Learning programs be judged by some of the same standards of quality used to assess more traditional offerings. In the short-term, programs whose appeals are strictly philosophical and which are unable to satisfy additional quality criteria, may fall by the wayside. . . . The desired role is one in which Open Learning is one of many programs available to students, but which does not aim to replace the classroom.

The quality issue is a very practical one, immediately affecting the success or failure of even the most modest projects. For example, one strong argument that has been put forward for using Open University courses in this country to "prime the innovative pump" at certain institutions is that "domestically produced American distance learning courses often have trouble identifying themselves as good college work. British OU courses, in contrast, have seldom received anything but high academic marks in the U.S. This advantage ought to be utilized to the fullest extent. . . . Conventional content can be a first step for innovation when it is combined with novel teaching methods. The conventional content of a distance learning program will vastly reassure those members of the conventional faculty who have prolonged contact with it." (John A. Taylor, Southern Illinois University.) Needless to say, the same purpose can be served by using one of the growing number of *domestically* produced courses of exceptional quality.

But What Is Quality?

Despite such widespread agreement that the issue of quality is critical, one has to take merely one step down from that high abstraction to stumble over a massive problem: "What do we mean by the term 'quality'?" As Victor Baldi of the North Central Association has put it, "Stated mildly, quality means different things to different people."

While many professors might readily agree that Open University courses satisfy the quality criteria customary in academe, that doesn't mean that they are suitable at all, let alone of high quality, for many *nontraditional* purposes, clienteles, and missions of American Open Learning programs.

Comprehensive criteria for investigating the quality and effectiveness of any Open Learning program have been developed by Dennis Gooler. His list of categories provides a good checklist. Of course, specific criteria need to be formulated

THERE IS NO ONE BEST WAY TO LEARN FOR ALL STUDENTS

James W. Hall of Empire State College (State University of New York) argued this thesis persuasively during the conference, pointing out that "problems occur when a single mode (such as TV) is expected to serve a very large number of students with diverse backgrounds and interests."

His own conviction, based on experience at Empire State and in other "contract learning" programs, is that:

> No single mode will meet the particular educational requirements of individual students as to time and place of instruction nor, for that matter, as to best mode of learning. We know that many students learn extremely well in a classroom setting. Others can do equally well learning on their own through independent reading or through the use of pedagogically sound instructional materials. Thus the expectation is that a degree earned wholly through the pursuit of televised courses will likely work very well for some students, less well for many others, and not at all for still other students. Unfortunately, when most new instructional systems are conceived, they are conceived in a single mode of instruction.
>
> This is why, in my judgment, if a system of "open learning" or "off-campus distance learning" is to be successful, it must link together a variety of instructional modes, allowing students to move from one form to another when circumstances require it. Ideally then, a student should be able to pursue work toward a degree in an off-campus setting using interchangeable broadcast or closed-circuit video courses, high quality correspondence or independent study courses, audiotapes and laboratory instruction, experiential or internship learning situations, and even computer instruction. Under these circumstances, students, and particularly adult students whose hours are often unpredictable and who must carry a number of responsibilities other than learning responsibilities, find it possible to move at a fairly intensive pace toward a degree objective. And from time to time, this same student may be able to fit into his/her schedule an actual class or seminar offered on the college campus. Such a system also can build in the possibility for a short-term, intensive residential experience, such as a one- or two-week summer seminar or a weekend of intensive study.
>
> The coordination of such a set of instructional options for students requires a simple but comprehensive mechanism for planning, monitoring, and ultimately evaluating the student's work. Such a mechanism is offered at Empire State College by the "contract" or the individual study plan.
>
> The use of such a system is highly efficient, for in theory it enables an educational institution to make available to each student precisely the requisite instructional support to accomplish given tasks. It is not necessary to maintain in one place all at one time the entire range of resources which students might conceivably use. This means that the student has a higher chance of finding what he or she most needs by way of instruction and support, while the institution is able to offer this support at minimum effective cost.

The need for diverse modes of learning was also stressed by Bernard Luskin, whose institution serves both TV students and those who attend classes offered at convenient locations throughout the community. "We're not going to see many students graduating from programs consisting entirely of TV courses, even if we offered such programs," he predicted. "Most students will want to take some telecourses, then fill out the rest of their requirements with on-campus work. For one thing, taking the whole program via TV takes too *long*. Even though our District owns its own station, we're limited in the number of courses we can squeeze onto the air each term. Most institutions are limited to from one to four courses. So even as we build toward a really first-rate AA curriculum with attractive options within it, this wonderful structure we are building will be taken apart by institutions and individuals deciding for themselves which parts they want and need to use. Which is just as it should be."

EFFECTIVENESS IN A NUTSHELL

Peter Dirr of the Corporation for Public Broadcasting put sharply the need to measure effectiveness:

> There are many ways to reach new learners. As you contemplate the use of television and radio, know exactly what you want these media to do for you and what additional support services they require. Then, as you implement their use, question their effectiveness: Are they working? Are we reaching the intended audience? How can the process be improved?

within each category, determined by the particular character of the project or program under investigation and the purposes of the evaluation:

> Open Learning or Nontraditional Study programs, like any new educational or social programs, are susceptible to considerable formal and informal evaluation directed at determining the success of those programs. There are numerous kinds of criteria whereby judgments of success or failure may be rendered, including:

1. To what extent and in what ways does a given Open Learning program in fact extend or expand access to postsecondary educational opportunities?
2. To what extent does the program provide opportunities and services that are regarded to be of priority to communities in general or to specific individuals?
3. To what extent do the processes and products of the program appear to be of high quality?
4. Who learns or experiences what, and with what consequences?
5. Is the program cost-effective?
6. To what extent and in what ways has the program influenced the policies and directions of other programs, institutions, or agencies?
7. What are the short- and the long-range consequences of the existence of Open Learning or Nontraditional Study programs for insfitutional/political policies, for individual capabilities and priorities, and for broad social values or policies?
8. To what extent does the program contribute knowledge useful to a better understanding of the problems, issues, and practices of the field?

Gooler notes that the proper criteria for evaluation will differ from project to project, depending on goals, clientele, etc. He also invites dialogue about the adequacy of his categories and their better definition.

The difficulty—and necessity— of designing better ways to evaluate Open Learning and other nontraditional programs was a major conclusion of the Cross-Zusman paper cited at the recent UMA-NIE Adult Learning Research Conference. The authors concluded:

> We remain firm in our conviction that nontraditional education can and should be evaluated, but it is extremely difficult to do it using traditional measures—which are the measures we happen to possess right now. . . . New attitudes about the goals and purposes of adult education are emerging, and evaluation is going to have to come to terms with that reality. . . . Once the role of traditional achievement measures is questioned, the issue of "standards" arises. When that spectre is raised, as it is increasingly, the enormous diversity of the goals and purposes of nontraditional education forces us to a deeper analysis of 'quality' education. The issues are not simple and the basic challenges of nontraditional education are setting off healthy chain reactions in both program development and evaluation design.

Why would an auto mechanics instructor enroll in telecourses?

"At first I was just curious, and then I found I could take telecourses at the same time I take my Vocational Certification courses," says JAMES POWELL, auto mechanics enthusiast and teacher.

After nearly 30 years away from formal education, he returned to college in order to obtain teacher certification. "I wasn't prepared at first," he admits. "It seems different this time in school. It takes more discipline."

Now that he's rolling, however, he has decided to go ahead and work toward a baccalaureate degree. This father of three has already taken two telecourses and plans to take others.

"I enjoyed the government course—that's my thing," he says. He has also completed the humanities course. Though he still doesn't have a special interest in all of the arts, he likes some of them and he found most of the programs interesting.

What's the best part about taking telecourses for James Powell? He has a ready answer: "Telecourses are enabling me to speed up getting my degree."

B. OUTREACH AND ACCESS

The Demand for Open Learning

The state of our knowledge about the *demand* for Open Learning programs and how that demand might be best transformed into adequate numbers of enrolled students was explored at a UMA/NIE conference in March. The following informal report of the conference, provided through the courtesy of Robert D. B. Carlisle, the synthesizer, summarizes the main conclusions:

> Three major areas for research were identified: The Adult as Learner, Program Development, and Administration and Organization.
>
> Regarding The Adult as Learner, the conferees proposed that UMA study both those students currently involved in their program and those who were not, with particular focus on learners in rural settings. Patricia Cross suggested that enthusiastic students might be probed to discern their motivation and the support services which increased their satisfaction, while those who expressed desire to learn what was being offered but who were put off by the televised mode of teaching be studied to identify the sources of their resistance.
>
> Regarding Program Development, it was suggested that UMA research focus on "the teaching-learning transaction," encompassing such topics as needs assessment, selection and organization of learning, planning materials, and working with learning groups.
>
> Regarding Administration and Organization, the conferees urged that UMA summarize its own research, relate it to other research on Open Learning, and make it available much more widely to others in the field. Specific research topics for new studies were suggested, including which evaluation strategies work best, UMA's interinstitutional relationships, and other Open Learning systems whose successes and problems might contribute to UMA's decisionmaking. (See the Executive Summary in Appendix C.)

A "Marketing" Orientation

The most dramatic development in this area over the past several years has been the emergence of a "marketing" orientation, new in higher education.* This orientation has been elucidated by Professor Sherry Manning of the University of Kansas School of Business. She compares higher education today to the railroads in the 1940's—an "industry" that has reached the saturation point for its traditional product. At such a point, continued focus on the product, rather than on diversifying into new products and new markets, can be disastrous. Yet higher education is ill-prepared for such entrepreneurship. Professor Manning spells out the problem and the prospects with classic cogency: "Are we not extremely inwardly oriented? Are we not often more concerned with internal relationships than we are with what our publics might desire? Faculty, for example, are largely discipline-oriented; our job has been to become scholars in our discipline, to write about it, and to teach it. We are paid differentially by discipline, and we are promoted and tenured based upon accomplishments in our discipline. Our evaluations are not substantially influenced by those who pay us nor by those we serve; we are evaluated by our peers in our discipline based upon work in our discipline. This is by no means a criticism of how we do business, but rather an observation that may help to explain the dilemma in which postsecondary education programs may be in a relatively mature stage in their life cycle with an inward orientation."

There are several possible strategies used by firms in this fix, and each strategy's counterpart can be found in use by some colleges and universities. The "market penetration" strategy suggests simply pushing the "old" product more aggressively to the old kinds of consumers; i.e., putting heat on the admissions office to visit more high schools or devise better recruiting materials. A second strategy is "product development": for example, enlivening the curriculum by using instructional technology. The third possible strategy is "market development": selling the "old" product (traditional college instruction) to a new market. (This strategy was reflected in the title of the 1974 meeting of the American Association for Higher Education: "Lifelong Learners—a New Clientele for Higher Education.")

The fourth possible strategy, and the most innovative, is "diversification": devising a *new* product for *new* markets. While it "may represent the strategy with the most promise," it is also the most risky and problematical. Professor Manning concludes on a challenging note:

> Diversification is the most uncharted of the strategies, and the one about which we know the least. We have surveyed and surveyed and surveyed adults about their 'educational needs,' and we find, for example, that {many} middle-income, middle-age individuals with at least two years of college education who said they would be 'very interested' in continuing their education with credit courses on television at home, at decision time they watch sitcoms. And we find that of the middle-income, middle-age housewives who are a captive daytime television audi-

* The University of Mid-America has recently shifted dramatically to a more market-oriented, "demand model" for deciding what courseware to produce.

CAN/SHOULD COURSE PRODUCTION BE COORDINATED?

A lively conference debate broke out over this question. Some participants thought that greater coordination between major producers—about what gets produced, when, and by whom—is necessary and desirable. Others thought it unfeasible and unnecessary.

"Production has proceeded too much on an *ad hoc* basis over the past 20 years," asserted Jim Zigerell. "The result is the existence of a grab bag of courses, with no overall curricular rationale. Even so, just by accumulation there now exists, for the first time, courses out of one or another shop, that add up to a two-year AA curriculum. But greater coordination for the future would be desirable."

Jack McBride indicated that such coordinated academic planning among institutions was most difficult, given the quite different missions, clienteles and other pressures on each producer, to say nothing of the constraints of funding. He felt that there were far more promising prospects for collaboration in other areas—market research, staff development, public policy analysis.

The discussions narrowed down to whether courses could be developed that would meet very wide national needs, even serving institutions as diverse as a two-year community college and a graduate program. Two participants pointed out that their courses currently serve widely diverse audiences. The wrap-around courses out of the University of California have been used by hundreds of diverse institutions throughout the country, and Appalachia currently enrolls students in 13 states in a course taught by a professor from one institution in the region. Harold Morse urged the identification of specific and sharply needed new courses, such as Teaching the Handicapped right now, that institutions would accept with alacrity to meet an urgent need.

Dr. Morse further pointed out that in the near future, with the advancement of such delivery technologies as the marriage of satellite and cable technologies, there will be a great demand for quality public service programming in all areas. This demand will supersede any near-term constraints based on funding or institutional mission pressures and will be created by the aggregation of a nationwide public service market. Programs of regional and national impact must be coordinated on all levels and will be supported by mass audience participation.

ence, most prefer to take a course outside the home at a learning center or an institution. And we find that many individuals from labor unions who identify strongly with vocationally and technically oriented programs do not choose a trade school, but attend instead a traditional institution of higher education.

There are many paradoxes and many surprises in our efforts to diversify postsecondary education. We have learned a great deal about adults, their interests in learning, and their educational needs. We have learned a great deal about nontraditional educational programs, about the media and how to use it effectively, but we still have much to learn."

There seems to be much promise in this shift in orientation in higher education. "Consumer-orientation" is perhaps a more acceptable word for it than "market orientation." Thus translated, it prompts the hope that the student may at last be finding his or her rightful place at the center rather than at the "receiving end" of the process. The touchstone definition of Nontraditional Study has been that it is "an attitude that puts the student first and the institution second, concentrates more on the former's need than the latter's convenience. . . ." When this was put forward some years ago by the Commission on Non-Traditional Study, it was mainly a moral mandate. Now, it seems to have become an economic imperative. The emerging orientation, as Professor Manning concluded, "relies on the market." Perforce, therefore, it "recognizes the individual as the most valid and valuable judgment of the worth of our educational programs."

Breaking the "Iron Law"

This new consumer, or market, orientation is not without its dangers. For one thing, this orientation neglects those who cannot pay and therefore do not constitute a market. These are the people who always seem left out of every bold new venture in adult education. The iron law of adult education seems to be: "The more, the more."* That is, people who already have a good deal of formal schooling are most likely to plump for more. Whatever is done, whatever kinds of new programs are offered, it seems that the same people show up: those who need them least. When programs need to charge enough to be self-supporting, then economic self-selection enforces the iron law. "This may be a neat way of explaining failure," says Max Rowe, of Israel's Everyman's University, "but failure it remains."

Recent research by UMA has confirmed this failure. "We still have not found effective ways (if

* For up-to-date documentation of this familiar axiom in adult education, see Cross and Zusman (bibliography).

they exist) to involve minorities, members of lower socioeconomic groups, and lower educational groups in higher education via the use of distance learning techniques," wrote Wayne Hartley in a paper, "Marketing to Nontraditional Audiences," based on the most recent findings. "We are still catering to the white, middle-class, well-educated members of society."

Recent Research

Among the seven programs participating in this project, access and outreach are continuing concerns. Eleven Open Learning institutions, including three of the seven, were surveyed recently by UMA regarding the audiences (potential and actual) for their TV courses, the number and nature of such offerings and the extent and effectiveness of promotional activities. The findings were:

- These particular institutions serve a potential audience of 20 to 30 million adults, including seven to eight million minority group members.
- During Spring '76, 10 institutions reported a total of about 22,000 enrollments in TV courses. Five community colleges accounted for nearly 95 percent of these enrollments.
- TV course enrollees with these institutions tend to be older than on-campus students and a majority are simultaneously engaged in courses of study not involving television.
- Over a two-year period nearly 100 different TV courses were offered by 10 institutions. Only 12 of these courses were offered by more than a single institution.
- All but a small percentage of TV course enrollees are taking the courses for college credit.
- Overall, the average total per course costs (tuition and materials) to TV course students from these institutions were about $60. The average course costs for community college enrollees were less than half the costs for enrollees with the other institutions.
- All but one institution reported that support for TV courses came from multiple sources. Community colleges received from two-thirds to all of their TV course support from state and local government. On the average, 15 percent of community college support came from student tuition. The other institutions in the survey received, on the average, nearly half their support from tuition and the remainder from other varied sources.
- Promotion of TV courses by all surveyed institutions involved the use of multiple means. All used brochures and most used newspaper ads, TV ads, and radio announcements as well. Other means were employed by many of the institutions.

The study concluded from the data that "the markedly higher enrollments reported by the community-related institutions compared with those of the other institutions, although perhaps due in part to the relative longevity of the former, are likely to be better explained in terms of three other factors: a) the relatively limited geographic extension with community colleges, b) the relative similarity of community-college student populations for TV courses and traditional courses, and c) relatively low student tuition costs for TV courses at community colleges."

Levels of Participation

The "openness" of Open Learning via TV, newspapers, radio, or other mass media extends to virtually the entire population. Therefore, participation must be thought of as occurring on at least three levels, as Martin Chamberlain has noted:

1. The casual viewer or reader for whom the media presentation is sufficient reward. We have reason to believe a sizeable number of viewers or readers became participants through chance exposure. The quality of the message must be such as to hold them.
2. The viewer or reader who is not sufficiently attracted by the promise of the program to enroll as a non-credit student or who simply purchases some of the published materials to engage in a deeper study of the subject.
3. The serious student who enrolls for credit and completes the full course.

Chamberlain offers the following table of comparative involvement at the three levels, based on "reasoned estimates according to evaluation studies of six courses using newspapers and three public television courses":

	Newspaper	Public Television
Level one	5 million	3.5 million
Level two	15-25,000	12-30,000
Level three	6-12,000	12-50,000*

There may be a fourth category—very serious students who faithfully follow an entire series of broadcasts, do a significant amount of ancillary reading, but do not enroll, perhaps because they

* The apparent anomaly in which the totals for level three under public television exceed those of level two is caused by lack of good data on book sales. It is possible, probably likely, level two totals exceed those of level three. Undoubtedly there is some intermingling of numbers. The totals for level three are derived, where possible, from enrollment information rather than book sales.

wish to proceed faster or differently than a prescribed syllabus permits. (The present writer is one such student, currently involved in two courses, "The Shakespeare Plays" and "Introduction to the Humanities.") Considering such people as constituting a fourth category is only necessary because the three-part division seems to imply that the enrolled students are necessarily the most "serious." While the numbers in this fourth group may be small, the learning involved may be significant in quality and results. Moreover, such learners might be turned into enrolled students if courses were offered with an "Independent Study" track that permitted self-directed work rather than prescribed assignments, papers, and examinations.

A NEW PUBLIC SERVICE NETWORK

One of the frontiers of Open Learning was described to the conference by Harold Morse of the Appalachian Education Satellite Program (AESP). Since October 1, 1979, the Community Service Network (CSN) has broadcast 35 hours per week, five hours a day, of public service programming, distributed by satellite through cable television to up to three million American homes.

"This programming, which is designed to be non-competitive with PBS and commercial television," said Morse, "would reach and serve specialized and/or underserved audiences with increased program content and frequency." He explained further:

> The CSN will offer a mix of educational, instructional, and informational programming. A high percentage of the instructional programming, as it has in the past, will be continued on a live basis.
>
> Other programming, most of it supported by special grants, will be broadcast on a live basis. The AESP has experimented with, and CSN will continue to experiment with, the live, remote programming of speeches, conferences, and other special events.
>
> Under other special grants, the CSN hopes to increase program interaction with toll-free "800" telephone numbers on some of its programs. One program in mind, for example, (and which has been suggested by some cable TV operators) would be for senior-citizen budgeting and financial planning with a live, toll-free number so that viewers from any part of the country could call in with questions.
>
> The Community Service Network would assist communities with a variety of educational, informational, and instructional programs. Based on continuing inputs from participating communities (where the AESP now operates), from cable television operators, and from other local and regional sources, the CSN is developing a program format which should make a positive and constructive contribution in communities throughout the country.

For further information about the AESP and the CSN, see Appendix A.

Treasurer of an aviation company, RON COLLINS has had a good deal of experience with money. To add to his expertise, he has taken many courses in business and accounting over the last 12 years. However, this spring brought him two new educational experiences in one—a college course in humanities delivered by television.

Ron enrolled in the humanities course because it was a required subject for a college degree. He enrolled in it on television because he thought it would be "a nice way to take the course."

And he thinks he made the right decision. "I think I really learned a great deal from it," he says. "And I enjoyed it." Part of that enjoyment was being able to choose his own environment while watching the programs.

As a night student enrolled in nine hours of on-campus classes, Ron Collins likes having an alternative to spending every evening on campus. Telecourses have turned out to be a good way for the treasurer to save time—which he says is always a good investment.

C. RESEARCH AND EVALUATION

"Research and evaluation have greater importance to Open Learning than they have generally been given in conventional education," wrote the authors of the UNESCO report *Open Learning*. They cited the reasons:

- the need to justify expensive innovations
- the necessity of long-range (and correct) projections and predictions as the framework for making production and distribution decisions with long lead-times and even longer in-use effects.
- the relative isolation of the producers of distance-learning materials in comparison with on-site, face-to-face teaching.
- the wide visibility of the products and the diversity of the audience.

A Research Gap

There is clearly a "research gap" between the need for research in Open Learning, and the very limited research currently being done.

The bulk of the research that *has* been done has been devoted to the basic question: how does the effectiveness of teaching via television compare to on-campus, face-to-face instruction? The clear outcome of this research has been summed up by Leslie Purdy of Coastline Community College.

> Television courses do teach, students are attracted to them, do succeed in them and do enjoy them. In fact, the effectiveness of television courses has probably been more intensively studied than most on-campus instructional modes. We who design and offer television courses do not have to be defensive any longer.

Beyond such studies, however, the pickings are slim, though the few major inquiries have produced results that should encourage further support: the CPB-funded study of The Ascent of Man, the study of Classic Theatre by Purdy and Icenogle, the works of CAEL, NIE's study of the External Degree, and the look at the life stages of adult students by Rita Weathersby among others. Veteran telecourse specialists meeting in Dallas last summer—including representatives from Coastline, Miami-Dade, Dallas, and UMA—agreed unanimously concerning

> the urgent and compelling need for a great deal more research and evaluation in virtually all aspects of telecourse operations—learner cognitive styles and demographics, the adult learner and lifelong learning, the real and perceived subject-area needs of the distant learner, optimization of design models and delivery modes, telecourse management and support models, marketing methods and publicity techniques, formative and summative evaluation methods, and, particularly, test item construction and analysis techniques.

Former NIE Director Patricia Graham told the last National Conference on Open Learning and Nontraditional Study:

> There has not been, so far, as much attention by educational research to nontraditional education and lifelong learning as we might like. The history of educational research suggests that such attention will grow as the field itself grows. . . . We should welcome efforts by educational research to find out more about the new students who are coming into Nontraditional Study and about the way age groups who have not previously been engaged in the educational enterprise interact with education.
>
> I know that many of you may be discouraged with educational research and many of you may feel that it does not sufficiently address questions in Open Learning and Nontraditional Study. . . . I've no doubt that, in time, as we define nontraditional education better, the amount of research energy directed toward it will increase.
>
> I know this may not be entirely satisfactory to many who devote their lives to nontraditional education, but I think you can be encouraged in the way in which the research community has been able to break away from many of the orthodox university modes of scholarship in order better to attend to the problems of traditional schooling. That break means that we are dealing with a field which is now mature enough to address a wide variety of problems within the academic framework. The National Institute of Education has sponsored research and other activities which we hope will at least establish the precedent that such work needs to be done and, I suspect more important, that the Federal Government is willing to give money away for it.

Some Research Needs: Product, Learner, Institution

Patricia Graham has indicated some high priority research needs:

> We must learn a great deal more about the people who are entering education at ages and life circumstances which have not before been widely encountered by the educational system. This is at least partially the task for research.
>
> My estimate is that such research will develop along two branches. The first will be learning research. What are the patterns of learning in older people? How do their life experiences relate to

how they learn and how they behave in educational settings, whether they be traditional or nontraditional settings? What kinds of teaching best suit this group of learners? A second kind of research, which I suspect will develop, will be something like what we used to call curriculum research and development. It will involve investigation of topics and areas or studies which nontraditional learners will want to address or which will be useful to them. Here, I think, we will have to differentiate between topics held to be utilitarian in some career-related sense and those whose utility has to do with personal fulfillment. In either case, there is much to be done in determining educational needs of nontraditional students. The next step will then be to develop materials and to study teaching styles which are most effective in delivering such education. We engage in much less of this kind of research and development at the elementary and secondary level now, not because it isn't important, but because our schools and teachers have become so adept at their own curriculum development and because private enterprise has been successful in cooperation with teachers to produce materials which work. This process is not so advanced for students not in the traditional age group. Here we will see a great deal of activity.

Looking more specifically at media courses, Purdy suggests some promising areas of inquiry:

> How do broadcast television courses differ and how do the differences affect student performance? Methodological problems exist because the major course producers are only now beginning to standardize course design. Furthermore, there are some differences in student viewers in our broadcast areas, but two generalizations seem to hold true:
>
> 1. Coordinated instructional systems are more effective than simple broadcast courses using uncoordinated components.
> 2. The way the course is offered, the amount and type of support services, is as important as the course design in determining student performance and completion rates.

To these variables in the instructional packaging, Jerome Lord adds a second set of variables—the differences among students:

> If the lessons of the summative evaluations done to date could be summarized in any one observation, it might best be said that no methodology makes a more significant difference than another *until the learners are differentiated.* (emphasis added)

A third major area for research has been proposed by Robert Heinich, editor of the *Audio-Visual Communication Review.* He calls for

> research about institutions, how they are structured, how they are managed. How is it, why is it, what is it about an institution, like a university, that tends to bias production (i.e., instruction) in certain directions? How does it work? Why does it do it that way? And then find out how these could be restructured to do it another way. . . . We would find it very profitable to work with sociologists, business people, engineers, other disciplines, to find out about this whole notion of systems and how it functions.

But first, such research must be encouraged within higher education. At present, Heinich points out, the reward system blesses only the narrowest kind of "pure" research. "One of the real problems we face . . . is getting development work given the same kind of academic respectability as research work."

A comprehensive approach to spurring and guiding needed research in Open Learning might be to prepare a Research Agenda of outstanding questions that would help improve practice.

A model for such a research agenda is the one generated by the 1977 NIE-sponsored conference on Personalized Systems of Instruction.

Such a *Research Agenda for Open Learning* might be coordinated with one for lifelong learning as a field, developed by a panel headed by Norman Kurland of the New York State Department of Education, published by the Future Directions for a Learning Society Project (The College Board). Responding to the increasing need for research in the field of adult learning, the panel's report focuses on the four main areas: adult learners, providers of learning opportunities, the social context in which lifelong learning occurs, and the interactions of learners, providers, and society. The panel identifies important gaps in research and provides a guide for the use of researchers and those who fund research studies. Kurland has suggested that the framework for research into adult learning worked out by the Panel would be highly suitable for organizing futher research in Open Learning and that, if researchers throughout the lifelong learning movement referenced this framework by identifying the scope of their inquiries in terms of its categories, it might lend more coherence to everyone's efforts.

Such a research agenda would direct attention to neglected areas and encourage coordination of efforts. As Cross and Zusman noted in their review of the literature about adult part-time learners and the programs designed to serve them: "Our overall conclusion is that we know a great deal about a very narrow range of topics."

Do babies and college mix? TERRY RASK thinks so. She's seven months pregnant with her second child and almost two semesters along on her college degree.

"I decided to take TV courses because I was pregnant and didn't want to be on campus every day," she explains.

Terry started college when her son entered first grade. She first enrolled in two on-campus classes just to see if she could handle college work. And she did very well.

With one semester of on-campus classes behind her, she was looking forward to continuing. Then she became pregnant.

The only disappointment about becoming pregnant again was the thought that she would have to postpone her college plans. But she found she didn't have to—she enrolled in telecourses.

"I feel I have gotten as much out of the TV courses as I would have on campus. I've learned a lot," she emphasizes. Either on campus or via television or both, Terry Rask is going on with college.

D. THE ECONOMICS: COSTS, BENEFITS, PRODUCTIVITY, AND OBTAINING SUPPORT

The academic joke that "nontraditional" simply means anything that loses money is a grim reminder that economics is crucial in Open Learning. As President Peter Magrath of the University of Minnesota says: "The most critical problem confronting Open Learning systems today (can be considered to be) how can higher educational institutions fund such systems in an increasingly tight fiscal climate?"

Open Learning is expensive to produce and disseminate, and as Bruce Johnstone points out, "Few programs any longer claim to be able to deliver education through this mode at a lower unit cost than through the traditional mode."

Costs and Benefits

The difficulties—indeed, the frequent impossibility given the present state of the art—in relating costs to benefits in Open Learning systems have been widely recognized. Some of the main reasons were cited by the directors of UNESCO's international series of case studies. They concluded in their report "Open Learning":

- Some systems preclude separate costing either because the distance learning effort draws heavily from resources and even materials already prepared for on-campus students or because efforts on behalf of on-campus and distance learning students overlap and intermingle.
- Partnerships with broadcasting organizations make it often impossible to obtain apportioned operating costs from that partner, to say nothing of capital costs.
- Even when dealing with essentially self-contained operations, it is difficult to compute meaningful costs per enrolled students (to say nothing of how to figure in costs and benefits to the non-enrolled who constitute a considerable audience and apparently derive substantial benefits).
- Comparisons with conventional institutions are difficult because those institutions do not have costs per student which take account of their ongoing capital and overhead expenses. Their computations rarely take account of their enormous, in-place capital investment, revolving costs, research costs, etc.

To these factors one might add a number of inherently unmeasurable benefits that most observers would consider significant. The Open Learning Movement has a significant, but intangible, effect on the consciousness of *professionals* in higher education and on the *general public*. This impact is hard to measure, yet incontestable—and its cumulative consequence may be important in changing minds through continual exposure to new ideas.

Professionally, the movement poses a constant challenge to the academic establishment. By demonstrating that new students are being served in new ways through new approaches, Open Learning demands, simply by existing, its own rightful place in the higher education picture as well as regular scrutiny of its prevailing practices to see whether they are meeting real student needs and utilizing the full range of available options. The very questions of quality, cost-effectiveness, and relevance raised by—and against—the Open Learning Movement challenge all of American higher education.

As to the *general public*, the constant promotional campaigns of, say, the Coast Community Colleges, Dallas, UMA, Chicago's T.V. College, and others have begun to alter public awareness. Through display ads in newspapers and catalog and brochure mailings, people are made increasingly aware of TV courses and other alternative ways to pursue higher learning. Equally important is the continual shaking up of the stereotypes about adult learning that many adults still carry around in their heads: that learning is for the young, adult education is for immigrants, an adult should be embarrassed to go back to "school," learning takes place only in a classroom and involves dull academic subjects like Latin and calculus, etc. These shibboleths sound crude to those in or close to the field, but to the man in the street these are still prevailing beliefs—the author speaks as one who writes about this field for a mass audience in TV Guide, Parent's Magazine, and other periodicals.

The point is not trivial. Perhaps the most basic challenge facing the Open Learning Movement is that many Americans do not really believe that they can successfully change their lives through learning. By confirming that one can, the movement is gradually bringing about a shift in consciousness that is essential not only for its own success, but also for the American future.

But these are intangibles, and they add to the reasons why "it is hazardous to compare the costs of Open Learning systems with those of conventional institutions," as the UNESCO team concluded after examining case studies from around the world.

Such comparisons, on the rare occasions when they have been done, often support the contention that Open Learning systems do deliver instruction at a cost-benefit level comparable to conventional instruction. Yet these studies invariably leave out some important factors that would further favor Open Learning. They usually fail, for example, to

"WE DECIDED TO BET A FEW MILLION BUCKS ON ITV"

The importance of leadership from the top in making ITV work was stressed by Rodger Pool of the Dallas County Community College District. Said Pool:

> I maintain that few so-called nontraditional approaches to instruction have much of a chance for success if it isn't readily apparent to all concerned that the "powers that be" care enough about the approach to do more than pay lip service. In our District, it has always been understood that telecourses would be offered. It has also been understood that the Chancellor made that decision. Others had only to be concerned about the "whats" and "hows" of the matter. To his credit, the Chancellor not only decided that telecourses would be offered, but he also hired a highly qualified person to head the effort and had that person report directly to him. Of equal importance was his willingness, and that of the Board, to commit the large number of dollars—"risk capital," if you will—required for such an operation to have any chance for success. To paraphrase the Chancellor, "We decided to bet a few million bucks on instructional television."
>
> The probability of an Open Learning effort succeeding without a high level of support from the chief administrator of the institution and its governing board is as remote as the prospects for an immediate drop in the price of gasoline.

take account of the capital investment that undergirds conventional instruction.

Jerome Lord has summed up the research on cost-effectiveness in Open Learning:

> It is not easy to figure whether commitments to Open Learning systems and programs are cost-effective. Certainly, very little has been done in the United States to try to measure the economic impact of individual factors of Open Learning. However, a number of studies have been done of large-scale multi-media based Open Learning projects in other countries. The basic finding of these studies by Klees, Jamison, Suppes, et al., is that such large-scale projects are essentially cost-effective. They also seem to have done an effective job in teaching and learning. (While Carnoy and Levin dispute these conclusions, they do not maintain that the projects under study are not cost-effective or learning-effective.) The point is that policy makers ought, at the very least, to be aware of such studies and, more particularly, the design models that are available therefrom. It may well be that new Open Learning initiatives will have to be structured to enable legislators to ascertain the real costs of these initiatives and the impact those initiatives have had on adult learning and adult lives.

Practitioners from Miami-Dade, Dallas, and Coast agreed. At last summer's Dallas invitational workshop they concluded that "there is little evidence that telecourses are, or soon will be, more cost-effective than traditional lecture-recitation classes, assuming they are as effective instructionally." Moreover, there is a widespread belief among the innovators that to assure utmost quality further reduces the possibility of comparative cost-effective operation. Ned Glenn of Miami-Dade notes that his operation at the Open College there "could be more cost-effective if the RSVP system were abandoned . . . but the damage to learning effectiveness and learner support would probably be unacceptable."*

The Budgeting Process

A major impediment to Open Learning projects is the budgeting process in higher education. As Miami-Dade's Robert McCabe notes in his contribution to the AACJC handbook "Using Mass Media for Learning": "The purchase of a set of films for $2,000 or $3,000 is often debated at length while personnel budgets in the millions elicit little discussion." He goes on to elucidate the mental "set" that permits such anomalies to occur:

> Budgeting procedures in higher education are, on the whole, rather primitive. There is an expectation of 'normal expenditures' and everything else is difficult to introduce or maintain.

The consequence, McCabe points out, is that despite new needs, new students, new delivery systems, new kinds of personnel and materials, new expense patterns, new curricular objectives, etc.,

* Substantial data compiled by Miami-Dade indicates that the RSVP system contributes critically to the satisfaction of students. As Robert Carlisle puts it: "The adults *like* their computer!"

the essential budget decisions are still made the same old ways. "With all the change, budget planners continue to anticipate expenditure patterns from earlier times, and to resist any others. . . . These current budget practices make it particularly difficult to introduce or sustain the offering of television-centered courses with their high fixed and low incremental costs and very different expenditure configuration (see table below). If such programs are to survive, great care must be taken to understand the costs and to insure that there is a demonstrable measure of quality and that expenditures per student are maintained at or below those of traditional programs."

McCabe developed this table to illustrate how the cost structure of telecourses differs from that of on-campus instruction.

The PERC Approach to Measuring Costs and Benefits

The seven projects vary widely in their approach to documenting cost-effectiveness. In some cases the "Open" character of the programs precludes even an approach to measuring benefits completely, as in the case of UCSD's Courses by Newspaper or wrap-around series. In others the complexities of relationships with other institutions (UMA) or forms of instruction (Coast) complicates matters.

One most ambitious assault on this problem in general has been mounted at Empire State where a system called PERC (Program Effectiveness and Related Costs) has been developed. "This system focuses first and foremost on program effectiveness," Ernest Palola explains, "and then asks, how much does the program cost? PERC goes well beyond what cost-effectiveness evaluation usually ends up meaning in practice: niggardly attention to effectiveness with the real emphasis remaining on the analysis of cost factors. PERC is a wholly new approach to educational research that enables decisionmakers to truly gauge not just the cost of a program in relation to the costs of other programs, but also the cost of a program in relation to the educational effectiveness of that program."

PERC has been applied to a media-assisted college course offered through Channel 13 in New York City. In addition to educational evaluations through student questionnaires, phone interviews, on-site observations, and intensive interviews with instructional and broadcast staff, cost data on course development and operation were collected so that the evaluation of course *effectiveness* could be viewed in terms of course *costs*. The PERC model proved fully capable of analyzing multimedia type programs. Ten reports are available, and a similar study is currently under way for multi-college use of TV and Open University materials.

Further, the PERC instruments can be adapted to be responsive to the particular mission and role of the project in question. "Projects or educational institutions can thus study program effectiveness that is defined in terms important to that operation," notes Palola. "PERC does not establish standards, but rather presents instruments that may be molded to a specific institution's standards. Data that is relevant to an institution can inform decisionmaking, priority-setting, and future planning. And program research need no longer be conducted in a vacuum."

The PERC strategy was developed and tested at Empire State College and is now being used not only at Empire State, but also at the University of Wisconsin at Green Bay, Hampshire College (Amherst, Massachusetts), State University College (Plattsburgh, New York), and Northland College

COMPARATIVE COST DISTRIBUTION FOR A TYPICAL COMMUNITY COLLEGE TRADITIONAL EDUCATION AND TELEVISION-CENTERED EDUCATION

Traditional

Institutional Support—50%±
Plant operations; administration; institutional programs; compliance and reporting; student services; instructional support.

Direct Instruction—
5%± Instructional Materials
45%± Instructional Personnel—including salaries and fringe benefits of faculty, instructional aides, etc.

Television-Centered

Institutional Support—35%±
Plant operations; administration; institutional programs; compliance and reporting; student services; instructional support.

Instructional Materials Acquisition and Modification—15-20%

Delivery System—5-15%

Delivery of Instruction—15-35%
Includes cost of air time and faculty salaries.

(Ashland, Wisconsin). "These institutions were carefully chosen by the Empire State research team to test the adaptability of the PERC model," Palola reports. "A wide range of institutional types is represented by these institutions, and they are finding that the PERC strategy works for them. More recently several other colleges and universities across the country are adapting and applying PERC."

The Marketplace

Another aspect of the economics of Open Learning is the internal viability of the "marketplace" for mass-media materials. Robert McCabe has outlined the requisites for maintaining a healthy marketplace, particularly from the point of view of the producers of courseware:

1. Producing institutions should work closely together so that comprehensive offerings are available.
2. Producing institutions should design course materials to permit others to modify at a minimal cost and with a view to widely varied uses.
3. Producing institutions should resolve the serious question concerning methods of distribution of materials.
4. Delivering institutions should not view the video programs as a substitute for traditional lecture-discussion classes, but as one component in a newly configured delivery system.
5. Delivering institutions should develop an understanding of the economics of these courses so that there can be responsible budgeting.
6. Delivering institutions must accept the requirement to pay to acquire course materials. This is a basic cost for this type of instructional delivery, and the producing institutions must have this return if they are to continue to make materials available.
7. Dramatically improved cooperation from the public television establishment is imperative.

Perhaps the best criterion for measuring the worth of an Open Learning system is not cost/benefit analysis or comparison with other institutions, but whether a desirable educational objective is being served, which otherwise would not be, and at an affordable cost. In thinking about the cost, it should be kept in mind that social costs of advanced education, not usually considered, are significant in these systems. Moving information rather than people has taken on new importance in an era of energy consciousness, and the convenience of Open Learning makes this mode of higher education far less demanding of students' time than traveling to a campus.

Such considerations can have decisive policy implications. It may come to be seen as a historic turning point in American higher education that Coast Community College District in Orange County, California, under the leadership of Norman Watson, decided not to build a new $60 million campus, but instead to create the community- and broadcast-based Coastline Community College. The saving of the capital costs of creating a major campus and then sustaining the effects of its use over 50 years by commuting students vividly reveals the economic implications of Open Learning systems.

Obtaining Support

What are the likeliest sources of the funds needed for the continuation and growth of Open Learning systems? Bruce Johnstone has identified five possible sources:

- Parents
- Students (and spouses or families), through current earnings or debt
- Philanthropy
- State and Federal taxpayers
- Employers

He doubts that much increased support will come from parents or philanthropy (except for start-up costs for some novel projects), or from tax revenues from the Federal or state level. The most promising sources, he finds, are students and their spouses and families ("I believe that students can and will pay if the value of Open Learning is perceived and if financing mechanisms are available.") and employers (". . . may become an increasingly popular employee benefit as well as a recognized wise investment in human capital by the employer. The financial future of Open Learning may depend to a very great extent on expanded support from this sector.").

Students as a source would, and should, become even more significant if student assistance were available to nontraditional students on an equitable basis, Johnstone asserts. "The largest public subsidy, by far, to postsecondary education comes from the states in the form of support to public institutions," he notes. "The next largest subsidy flows to students eligible for one of the Federal student aid programs. . . . Open Learning must secure eligibility for its students for some share of regular Federal financial aid."

With sources of outside funding so questionable, Johnstone hangs his hopes largely on Open Learning's becoming institutionalized and receiving its fair share of each institution's regular budget. "Open Learning (must) become part of whatever regular process of budget/approval/appropriation supports the state college or community college

systems, but on terms and according to formulae that do not work to the disadvantage of Nontraditional programs. (And) Open Learning and Nontraditional programs must secure eligibility for their students for some share of regular financial aid."

But Johnstone's pessimism about increased public support is contested by equally qualified observers. President Magrath of the University of Minnesota, for example, argues that Open Learning can and must be sold to Federal and state agencies:

> If Open Learning is to survive, its supporters must assume an offensive, not a defensive, posture. We must, in short, do a better job of selling Open Learning and develop new vehicles for assuring continued funding.
>
> How? First, we must do a better job of selling Open Learning on the national level. We need to push for what some call "a G.I. Bill of Rights for the adult learner." At the same time, we might consider pushing hard for the establishment of a tuition credit system that would assure two years of free postsecondary education for every citizen —as a socially useful right and usable at any time in a person's lifetime.
>
> Congress should also be pushed to correct other inconsistencies that discriminate against the nontraditional learner.

Another approach, "consortia of funders," has been proposed by Don McNeil of UMA. "Private foundations might get back into the field of supporting educational technology, but with a difference. They could support collaborative efforts, and they should themselves collaborate in supporting them. That way a foundation could express its interest in one discrete phase of a vast project in which it has an interest." For example, UMA secured a small grant that enabled it to distribute its ambitious Japan series to literally hundreds of thousands of people who never would have seen it. Currently, it is seeking a $20,000 grant to provide special print materials on its alcohol abuse course to secondary school teachers, creating a whole new audience for this $300,000 course.

After a lapse of 12 years, SANDRA BOOG-SCOTT, mother of two, decided to return to school. She began by taking a TV course.

"I thought a telecourse would get me into the habit of studying again. I also hoped it would give me insight into what to expect when I returned to on-campus classes," she says. This honor student no longer needs telecourses to help assure her that she can make it in college. So why does she continue to take them?

"I want to be home when my children are there. My older son is in school all day, but my little one attends preschool in the mornings only. So I can work in only two courses on the campus," she explains. By combining these with telecourses, Sandra can still carry a full class-load.

Even though telecourses give her more time at home, she does not feel they are easier than her other classes. In Sandra's words, "Telecourses are harder than regular courses because you have to be very self-disciplined to finish a telecourse."

E. IMPLICATIONS OF EMERGING TECHNOLOGY

New technologies have always exerted a powerful force over educators' imaginations (despite ritual avowals that one must start with educational goals before selecting media). This is natural and desirable as long as this power is understood and acknowledged. Invention is the mother of necessity. The telephone, the tape cassette, and the paperback book sparked new ways to learn—just as media has. While it may be true that ends should determine means, the human animal is delighted with its tools. "How can we use this marvelous thing for education and human development?" is not a misguided question, but one that was addressed in Carnegie II and that educators should be unashamed to ask.

Fortunately, they are asking it. And, in the Open Learning Movement, the question points towards changes in the future. The video disc, the minicomputer, the satellite, home TV taping and playback, increasing use of the telephone for interactive education, simulation games—there's such an array of intriguing new technologies already in use that a whole series of profiles of successful (and unsuccessful) projects has been produced under Ford Foundation support by Educational Facilities Laboratories for the Society of College and University Planners.

The new technologies on the immediate horizon were recently reviewed by Arthur Unger of the Christian Science Monitor:

- **Video cassette recorders**—approximately 750,000 of these are already in use, purchased at anywhere from $600 to $1,200, and industry sources estimate selling half a million in 1979.
- **Video-discs**—these small, cassette-player-sized machines that play special programming with laser-beam technology are now being market-tested in several parts of the country to sell for $400-$700. The 12-inch discs, to sell for $3-$20, will play through a regular TV set. The industry's plans call for the sale of video-disc "software" as the money-maker—like expensive blades to fit loss-leader razors.
- **Satellites**—rates continue to come down, and there will be more and more live programming via satellite. In addition, "superstations" like WTCG in Atlanta, which feed local programming by communications satellite to cable-TV systems across the country, may be expected to emerge rapidly.
- **Computers**—the promise of computers is still to be fulfilled. The Miami-Dade RSVP system points one direction for support services to distant learners. W. C. Norris, chairman of the board of Control Data, which created and markets the PLATO instructional system, argues that the computer is enabling education to "enter a new era, one marked by the beginning of a reversal of the fast everescalating (sic) cost trend. . . . This era will come because a marriage is being consummated between business and education, each contributing what it is best equipped to contribute in order to bring advanced technology and the economics of scale to education."
- **Cable**—more diversified programming may be expected in the aftermath of Warner's

TECHNOLOGIES FOR INDIVIDUALIZATION?

The potentials of new technologies for Open Learning loomed large at the conference.

"Speaking for UMA," said Don McNeil, "I can tell you that we are committed to *not* going down a single track, as our recently promulgated new policy guidelines indicate. We believe that we need to look at other technologies to meet the full range of students' needs."

Bob McCabe of Miami-Dade sees sharp changes as new technologies emerge. "I believe that individualization of instruction, through a combination of 'two-chip computers' and videodiscs, with home TV receivers already in place, may be the wave of the future," he said. "The student population of the eighties will be much more varied—in age and in every other way—than today's student body. They will require not the mass delivery of courses, but new kinds of interactive, individualized programming. We're investing heavily in staff time to explore those possibilities and be ready to build on our RSVP system when the time comes."

RADIO: READY FOR REVIVAL

A strong case for radio was made by the University of Wisconsin's Ronald Bornstein, a board member of National Public Radio (NPR).

Public radio has great potential as a local, regional, and national distribution medium for Open Learning. It is too often overlooked by producers of postsecondary materials or, when used, added as an afterthought.

Radio's pervasiveness and portability provide a tremendously effective way of reaching people wherever they may be: at home, at work, stationary or mobile.

Whether Open Learning relies on radio as a primary delivery mechanism or as a complementary medium to television productions, radio deserves serious review and utilization as an integral part of Open Learning efforts.

From the content development and delivery perspective, I dare say that creative talents could effectively design many kinds of materials which can be as (or even more) effectively produced through radio than for television. Obviously, many subject areas place high reliance on the visual medium. Others can just as effectively use high quality audio production.

Because of radio's production cost-effectiveness and increasing sophistication and use of the audio medium, the investment of limited dollars in this branch of public broadcasting could yield excellent dividends—for the sponsoring institution as well as for the distant learner.

The completion of the new NPR satellite interconnection system in 1980 will offer unprecedented opportunity for access and distribution of multiple program vehicles.

QUBE experiment in Columbus, Ohio, which offered subscribers a widely diversified choice of programming as well as two-way capability. Some systems are already planning to offer a children's channel, to be made available for a small added fee. There is talk of a sports channel and an all-news channel in other cable areas.

A far more thorough discussion of the "Implications of Broadcast or Alternative Distribution of Telecourses" will shortly be available in a paper with that title prepared for the Station-College Executive Project in Adult Learning (SCEPAL) by Susan M. Graff, director of Educational and Special Services, KPBS-TV, San Diego. Ms. Graff's paper compares the technical capabilities of broadcast, cable, ITFS, satellite, and videodiscs, as well as explicating their comparative implications for the scheduling, costs, and marketing of telecourses.

A broad-gauge discussion of communications technologies for leaders in higher education is "A Communications Primer for College Presidents" by Ralph Lee Smith, prepared for Educational Facilities Laboratories and the American Association of State Colleges and Universities (October 1978). This paper provides brief descriptions in lay language of the major technologies—cable TV, common carriers, videotape recorders and videodiscs, satellites, microwave, circuit integration, digital transmission, data packet switching, and fibreoptics—and brief assessments of their impact with implications for education and key issues, and inventories the agencies and groups in the field.

From the learner's point of view, the optimum mix of media will often include a range of resources. One of the present writer's most successful adult learning experiences involved using a series of films loaned from a library; tape cassettes of outstanding lecturers in the field; books and journals, of course; a local organization in the field; and correspondence with experts.

Such "mixes" put learning increasingly in the hands of the learner, which even TV courses can't match. "Television programs are no more flexible than classroom studies," notes Don McNeil. "The student has to fit his schedule to that of the TV station. Even on campus, a student would rather stay at home and play something under his or her control. The key is that learning is no longer going to be in the hands of someone else. It is going to be under the control of the learner. If the student has access to video or audio tape, he can decide when he is going to use it. A student can slap it into the machine at 3 in the morning if he wants. We have to learn to handle the type of learner who has all the means of learning at his or her disposal, who can learn at a time when he or she wants."

EMERGING TECHNOLOGIES: PROMISING AREAS IDENTIFIED BY CONFERENCE PARTICIPANTS

- Teleconferencing
- Computer-Assisted Instruction
- Computer-Managed Instruction
- Discs
- Cable, including two-way
- Other distribution methods
- Satellites
- Home Video Systems
- Minicam
- Radio (re-emerging)
- Audio Tapes
- Audio Cassettes and Slides
- 1" and ½" formats for broadcast and on-site use, respectively

Not many people are able to spend every evening on campus after working all day, even if they do want to earn a college degree. HELEN NEIDIGH has found she doesn't have to. She enrolls in telecourses.

After working as a secretary for nine years, Helen made up her mind to go back to college to complete her degree. She still works full-time and attends classes two nights a week at the college.

"I decided to take telecourses because I couldn't spend as much time on campus as I would like to," she says. A psychology major, Helen finds telecourses a convenient alternative to attending evening classes every night.

Helen and her husband have both taken telecourses, and they often watch the programs together. A veteran television student, Helen has four telecourses to her credit now, and she reports that she enjoyed all but one.

Soon Helen hopes to attend classes full-time; in the meantime, she's filling out her schedule with telecourses.

F. PUBLIC POLICY ISSUES

Perhaps the chief public policy issue from the point of view of project leaders around the country is: Will there be further Federal support? Don McNeil of UMA advocates not only that there should be, but that it should be put on an ongoing basis, "the same way that the regional educational Research & Development Laboratories are funded or like the ongoing Federal support of Gallaudet College and on the same basis: that Open Learning serves a population or populations needing special attention."

Such support, McNeil argues, should be for the regular "ready-to-serve" costs of maintaining the capacity to operate, as with the Extension model. With that capacity in place and publicly funded, Open Learning projects should then be expected to find the specific project funding needed to develop specific products and services.

Other major public policy issues are:

- How can state and local funding be obtained?
- How can the various national associations of higher education institutions be marshalled in support of the movement? (Most have shown token interest, but there is much more potential there for powerful support.)
- How can current FCC deliberations looking towards "pulling the plug on ITV" by wiping out its frequency allocations be influenced?
- How can the Higher Education Act reauthorization be influenced?
- How can the consequences of Carnegie II be used to advance Open Learning?
- Should an Open Learning University for the U.S. be studied as George Bonham suggests (Change, November 1978)?
- Can government regulations that discriminate against Open Learning students (in the allocation of aid, or the VA's classroom-attendance requirement for educational benefits) or against Open Learning programs (such as the use of courses to define eligible programs, legislative reluctance to accept nontraditional programs, basing funding on fall enrollments or full-time faculty or students) be changed?
- Do current copyright laws unreasonably impede the fullest use of telecourse materials?
- Can Open Learning delivery modes help deal with the energy crisis?
- Should financial aid be provided for typical Open Learning students?
- What should be the relationship between public television and Open Learning?
- How do you handle controversial programming?
- Who should pay for training activities?

An excellent review of the Federal policy issues affecting the adult part-time student and the roles of the major D.C.-based education organizations in pressuring on their behalf appeared in the Chronicle of Higher Education, February 26, 1979.

SELLING THE CONCEPT

The conferees concurred on the critical need to spread the word about the demonstrated success of Open Learning and about the immense contribution it could make to American higher learning. "We all know how far we've come in the past 10 years," asserted Bernard Luskin of Coastline, "and how far we could go with the right resources. But people out *there*—the learners themselves and most of our colleagues in higher education—haven't had the evidence brought strongly before them. It's essential that we do that. The first requirement of progress in this field is an improved public and political awareness of the potential of Open Learning."

James Hall of Empire State and Don McNeil of UMA, among other participants, agreed with this priority. "Current surveys which show that people rate telecourses near the bottom of their preferred methods of learning don't mean anything, because 99 percent of the people surveyed have never had exposure to our alternative," said Nofflet Williams of the Appalachian Satellite Project.

One way to impinge on public consciousness, some conferees thought, is with new programs that are so outstanding that their effectiveness cannot be denied. "Everyone carried on about the theoretical flaws in using TV for teaching young children until Sesame Street," one participant observed. "Then the discussion was over." "*Successful* courses overcome resistance rather readily," added Luskin, "but they have to be *really* good." And James Zigerell of the AACJC Task Force expressed the conviction that "Open Learning will live or die on the *quality and distinctiveness* of the courses we produce."

The discussion suggested that a gap exists between the state of the art (advanced and poised for even greater progress) and public attitudes and policies. The question of how the gap might be closed was left moot.

"We won't prevail by merely chipping away at the conventional structure," concluded Don McNeil. "Maybe what we need is a better organized movement to influence public opinion and higher education policy. . . ."

Already an accomplished painter and seamstress, WILMA DENNIS has found still another way to add a little class to her life. She enrolled in a telecourse. In fact, she enrolled in two—both in English.

Even though her husband and children alternately teased her and encouraged her about returning to college as a 65-year-old grandmother, she's enthusiastic about her participation in telecourses. "I enjoyed the assignments and writing very much," she says.

Away from college since the forties, Wilma has discovered that some of the lessons serve as refreshers, while others bring her up to date on how much the English language has changed since then.

Between painting, teaching art classes, participating in art exhibits, and enjoying her family, Wilma's life is very full. Although she really wants to write, she feels it helps to have someone else making assignments and setting deadlines. "I don't have the self-discipline to do it alone," she explains.

Now that she has tried her hand at expository writing, she's hoping to try a creative writing class next. Wilma likes having class in her life.

G. COOPERATION AND COLLABORATION

Cooperation and collaboration are already highly developed in the Open Learning Movement, though further opportunities beckon.

Existing consortial arrangements, particularly those involving some participants, are reviewed in the author's recent report, "The Other Open University," published by the Society of College and University Planners. The conclusion was:

> Alternative models are emerging which demonstrate that money, know-how, talent, and salesmanship can be assembled without the creation of new, mammoth degree-granting institutions. Colleges are joining forces in ad hoc consortia. In some cases these temporary partnerships are for the purpose of pooling in-house talents to *produce* and *market* specific courses—or to tie in with textbook publishers and public broadcasters to do so.
>
> In other cases, the users of telecourses are forming consortia. Colleges are banding together locally in a kind of consumer cooperative movement to get better buys, to make more and better use of the courses currently becoming available in such rich but sometimes perplexing profusion —and to win a say in what is produced next. These are far less complicated to start and run

COOPERATION AND COLLABORATION: PROMISING AREAS IDENTIFIED BY PROJECT PARTICIPANTS

- Users' Consortiums
- Producers' Consortiums
- Developing a National Advisory Network of Experts
- Fuller cooperation/collaboration between educators and broadcasters
- Cooperation between traditional and nontraditional programs
- Cooperation within and between projects
- Cooperation with contract and non-contract organizations
- Cooperation among new programs
- Sharing information
- Mutual project support
- Collaborative market research and planning
- Cooperation in staff development
- Learner needs identification and analysis
- Collaboration to impact on public policy considerations related to Open Learning
- Evaluation of Open Learning experiences
- National public relations efforts
- Helping users do a better job of marketing and implementing courses
- "Lobbying" for more funds for all of the above and other national needs, such as reasonable banking standards and so on
- National research on such things as marketing, effectiveness in adapting courses, special needs of special students, the best ways to use television and to integrate systems, etc.
- Adaptations for handicapped students (hearing, sight, reading, language, etc.)

Other Observations:

Cooperation, compromise, or capitulation—to what extent can we cooperate but continue to fulfill our primary institutional goal?

There is more cooperation than is readily visible to outsiders—it should be identified.

COOPERATE OR DIE

The need for cooperation and collaboration, from the point of view of one successful Open Learning project, was strongly put by Robert McCabe of Miami-Dade:

> **New forms of cooperative production and distribution are essential if we're to continue in that business. While our production for local use will continue regardless, we would need to close shop on production for national distribution without coop arrangements to increase the capital and the marketing to critical mass. Only in concert with others can we achieve high enough quality in our productions and find a large enough audience to achieve success. All of us should be helping other people get into the business of using telecourses, as well as using the best nationally available programs ourselves. At Miami we can't possibly produce everything we need ourselves, and even if we had sufficient funds, we couldn't assemble the diverse talents to do it. The majority of what we broadcast has to be developed elsewhere—the most we'd ever want to produce ourselves is 20 percent of our programming.**

than consortia that involve production, and they have been created under all sorts of auspices: public TV stations, already existing consortia, state education department agencies, and others.

In both cases, the basic motivation is both educational and financial: how to produce and/or use telecourses to provide quality instruction to greater numbers of students at reasonable cost.

That report covered *producers*, such as Miami-Dade, Dallas, Chicago, Coast, San Diego, the Nebraska Educational Television Council for Higher Education, Project ACCESS, and the organization of some major producers in the AACJC Mass Media Task Force, and *users*, including the Los Angeles and San Francisco consortia, the Maryland and Connecticut patterns, and less formalized arrangements around the country.

Another Kind of Cooperation

There is another kind of cooperation that holds considerable promise, yet has been neglected: cooperation between the Open Learning Movement and the Adult Education Movement. Wesley Meierhenry of the University of Nebraska has pleaded for more collaboration between these two fields, pointing out that

> The adult educators know some important things useful to Open Learning: about the need for a sharp focus on the learner's needs, about the importance of getting out there where the learners are, about the special characteristics of adult learners, about the necessity to depart from the traditional academic categories in designing courses.

Indeed, they know far more than that, and they are learning fast. Each year their National Conference on Adult Continuing Education brings together the foremost theorists and practitioners in the field, and the last two such conferences have explored topics of intense relevance to the Open Learning Movement: serving older learners, the burgeoning competency-based education movement, and the mandatory continuing education movement; new roles for women as learners, teachers, and planners; the need for a national policy on expanding adult learning opportunities; and billion dollar markets in industrial and business training. Yet the Open Learning Movement, the area of formal higher learning that overlaps with adult and continuing education, was not represented at these conferences. Nor are leaders from the adult and continuing education field, with a few notable exceptions like Philip Frandson's address to the last one, invited to the Open Learning Conference. There should be greater communication and collaboration at every level, from practitioners to policy makers, between these two highly congruent "movements," each seeking to serve adults' learning needs.

An example of the possible benefits: a just-published article in Lifelong Learning (Journal of the Adult Education Association of the U.S.) argues persuasively that "Experiments in adult educational television have skirted the main issue of the principles of adult learning—how to utilize television to incorporate modes of learning adjusted best for adult learners." The author, Lovern Root King of Evergreen State College, argues that this lapse accounts for the reported failure of many TV-based adult education programs. His argument is well-bolstered with theoretical and empirical data, well worth the scrutiny of Open Learning practitioners. Yet it is not likely that the paper would come to their attention.

Towards a New Level of Cooperation

The major outcome of the conference was the proposed creation of an Open Learning Alliance.

HOW ONE REGION IS MOVING TOWARD GREATER COOPERATION

John Montgomery, president of the Central Educational Network out of Chicago, told conferees about an emerging network for telecommunications service to all types of institutions and organizations supporting adult learning programs throughout 12 states of the upper Midwest.

During the past several months, over 530 individuals working in postsecondary education and public television were called together from throughout the region into 12 highly successful state meetings to learn about and react to the plan. Of these, and often in spite of very bad weather, 312 persons attended, and almost universally expressed favorable viewpoints in regard to the plans discussed. In almost every instance there was widespread, but small scale activity in the use of television to facilitate adult learning processes. These uses include: college credit courses; non-credit courses; television and general self-improvement viewing. Equally prevalent was the recognition that, contrary to the current state of affairs, institutions ought to be working together in order to better coordinate their work. State commissions, state university systems, private colleges and their associations, community colleges, vocational/technical schools, public school systems, and professional associations were all represented and in only a very few instances (usually at the local level) was any witness given to cooperative efforts with other institutional types.

Our elementary-secondary service which has developed during the past six years is seen as a model for what needs to happen at the adult level. We propose a 12-state council to be established initially by one ad hoc representative from each state. One of the major goals of the first year should be to help each state determine its own unique mechanism for selecting its representative on the council and the source of funding for its share of council costs in future years. In most instances, this is seen as probably requiring a loose knit committee within each state which has participation from each of the major institutional types involved in providing adult learning experiences. Already in the FY '79 meetings, each assemblage has identified from one to five persons as key continuing liaison contacts with CEN until the project is fully launched.

A second major activity of the council during the first year would be to clearly define its mission, objectives, and plan of action. The council would have virtual autonomy in establishing its own budget and program of activities but would interface with CEN by selecting its own officers to compose an Executive Committee officially representing the council members on the CEN Board of Directors. To accommodate administrative oversight and business requirements of the council, a 10 percent overhead cost will be transferred annually from the council budget to CEN's general operating accounts.

As suggested earlier, the council would have liberty to plan its own scope of activity and service. However, several items already appear feasible and can be modified, deleted, or expanded as the needs and interests of the several states require. Certainly, paramount to the agency's success would be the ability to continuously assess those needs and interests in order to redirect the service output to most appropriately respond to what changing times and technology may dictate. Other examples of service functions which the council would immediately fill are:

a) Scheduling and distributing underwritten program series for both broadcast and non-broadcast uses as credit courses or other adult learning purposes,

b) Screening materials available for acquisition,

c) Negotiating group rentals in behalf of interested institutions,

d) Establishing a regional library of programs available to the membership.

This cooperative organization would encourage the development of Open Learning delivery systems and mediated instruction. Participants in the conference discussed the possible purposes, organization, and functions of the new organization. Among the ideas suggested were that it could provide leadership in representing the interests of Open Learning before the Congress and the Administration; share information through project status reports and news impacting on Open Learning nationwide; plan for collaborative projects among members; and provide the administrative structure for joint public information, research, marketing and distribution, and training and staff development.

An up-to-date account of the Open Learning Alliance, as of the time this publication went to press, has been presented in the foreword to this report by Donald McNeil.

TOWARD AN ALLIANCE WITH OTHER EDUCATORS OF ADULTS

"Few of us in this room have a background in adult education," remarked Martin Chamberlain of the University of California at San Diego. "But the ablest theorists and practitioners in that field are doing good work in aiming for some of the same goals and serving many of the same people as us. Perhaps we should have more communication with them."

The point was underscored by Charles Stalford of NIE, who cited the need to "place the demand for Open Learning in the broader context of adult education research, which suggests among other things that barriers to learning are more complex than simply overcoming the physical access problems. In part, psychological and social psychological factors as well as situational ones such as location may be critical in considerations of adults about whether to engage in learning."

Part III

SOME PERSONAL OBSERVATIONS

SOME PERSONAL OBSERVATIONS

"Lifelong Learning" is the new rallying cry in American higher education as colleges wince under declining enrollments. Plainly put, we are running out of kids to teach. More loftily stated, adults need and want opportunities to learn. Moreover, "future shock" forces us all to become continuing learners. Everything points towards lifelong learning as the new frontier in education.

What does this mean for educational technology? I believe it means that the time has come when media may—indeed, *must*—become central in the learning lives of Americans.

Lifelong learning means reconceiving the entire educational process as a continuum from the earliest years to the final flowering of wisdom in old age. It means recognizing the fact that learning and growth can continue unabated throughout adult life, and insisting that society must provide adequate opportunities for education at all ages. It means that "learning to learn" can at last truly become the prime goal of schooling, because young people no longer can be provided with all the knowledge they will ever need, or even the most essential knowledge, while in a school. It means that training students to *use* media resources for learning should become a major educational priority.

Lifelong learning means, above all, not separating out the "educational" part of our lives from the rest. We must recognize that the ultimate educative forces in society are not the schools and colleges. They are our work, our cities, our families, our media. We become what we do, what we see, what we live.

So the ideal of "Lifelong Learning" presents two challenges to educators. First, to use communications technology to extend learning opportunities to literally everyone, at every age, in every circumstance of life. Second, to humanize the commercial mass media by empowering people to use them critically and creatively. I'm impressed at recent progress and the promise of the eighties in both of these areas.

Several years ago I served as associate director of the Commission on Instructional Technology, which made a large number of recommendations for improving American education. Looking around today, I am astonished by how many of those recommendations have been implemented—but I am even more struck by how many entirely novel initiatives, which the Commission never envisaged, have occurred in this inventive area.

Major articles have appeared in major magazines from TV Guide to the N.Y. Times over the past year on the burgeoning of instructional TV in the nation's colleges to reach adults who cannot or will not come to the campus. The most authoritative newspaper of academe, The Chronicle of Higher Education, reported recently that "School officials and faculty members are now hailing the tube as the greatest boom to public education since the Gutenberg press."

Other technologies are flourishing too. The use of films has become commonplace, yet startlingly sophisticated, in millions of classrooms. Tape cassettes are now available which bring the best lecturers in virtually any subject into the learner's home, to be used at his or her convenience: while driving to work, repairing the bicycle, mixing the vichyssoise. The net result has been to enable more and more learners to take their education into their own hands through use of media.

Let me give an example from one learner's experience. When I wanted to learn General Semantics, I didn't pay to take one of the locally offered courses, with an instructor who was an unknown quantity, a syllabus that might not suit my personal needs, the hassle of having to get to a certain place at a certain time every week, and the cost. Instead, I got the most renowned lecturer in the country to deliver his course in my living room whenever I felt in the mood—even though he was in San Francisco and I was in New York. How? By borrowing a set of S.I. Hayakawa films from my local library.

I augmented Hayakawa on film with other experts on tape cassettes, which I could listen to at my convenience. My television viewing of commercials and sitcoms provided ideal case-studies on which to use the concepts I was learning. Books, journals in the field, and phone interviews with some of the leading experts completed my do-it-yourself "course". I proceeded throughout at my own pace, skipping things I wasn't interested in, digging deeply into topics of personal interest. The result: no grade or credits to show, but I acquired a potent mental tool that I use virtually every day. I enjoyed myself tremendously, and I proved to myself that self-directed learning via the media can be an ideal form of education.

The media and the educational system are moving, however hesitatingly and awkwardly, closer to one another.

In higher education, a whole Open Learning Movement has emerged. The University of Mid-America spans seven states to reach a whole region with first-rate college courses. In California, Coastline Community College uses TV as a major tool. In Appalachia, a satellite brings in-service education to teachers who would otherwise be left to fend for themselves in solving grievous problems of disadvantaged pupils. The Dallas Community Colleges reach tens of thousands in their community,

and lease top-flight courses to other institutions around the country. Chicago's TV College is still going strong after two decades in the business. Miami-Dade Community College specializes in creating "wrap-around" courses out of some of the most exciting film and video fare of our time, including "Roots."

Most recently, just as this report went into press, the New York Times reported that Walter H. Annenberg, president of Triangle Publications (TV Guide) and former Ambassador to Britain, is proposing to donate $150 million to public television to create a "national university of the air." This would be the largest grant ever made to public broadcasting by any private source other than the Ford Foundation, involving a contribution of $10 million a year for 15 years for a system of college credit courses. The proposed "American version of the Open University" would, according to the Times, "probably make extensive use of cable television, satellites, video cassettes and video discs, in addition to a limited schedule of hours on the Public Broadcasting Service and National Public Radio."

The burgeoning of educational communications and technology is a world wide phenomenon. Over the past year I've visited a "Center for Instructional Technology" and a TV-based "Everyman's University" (one of some 20 around the world), both in Israel; seen radio and tapes being used to bring basic education to the rural poor in Bangladesh; learned how the British have launched a spectacularly successful war on illiteracy using TV.

Yet sheer snobbery still dominates many educators' attitudes towards the media. I stirred up tempests in some academic teapots last year when I confessed in print that "I'm a college professor, but I think you can sometimes learn more sitting in front of your television set than sitting in a classroom." Even though I hastened to underline the words "sometimes" and "can"—and went on to show readers how to become active, creative listeners, even of sitcoms—the letters came roaring in, taking me to task. But a few experts agreed. "Here's this medium operating 24 hours a day, for all ages, with no holidays or truancy, constantly modeling for us how people behave, solve problems, relate to one another," said Ben Logan of the Media Action Research Center. "This is our school. We viewers need to develop more positive ways of using TV."

Some of the most important educational and cultural organizations in the nation, from the U.S. Office of Education to the Corporation for Public Broadcasting and the Ford Foundation, are putting major emphasis on encouraging and supporting the use of communications technologies for learning. But the most important developments are at the grass roots: in colleges, homes, offices, factories, jails, hospitals, old age homes, social agencies, and other places where people can learn at a distance, yet intensely.

For better or worse, every American, child or adult, gets much of his or her information from the media. Harnessing them for productive and rewarding learning is the great challenge to education today.

Part IV

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Part VI

NOTE ON THE AUTHOR

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NOTE ON THE AUTHOR

Ronald Gross is currently a telecourse student taking Personal Time Management over Channel 25 in New York City and is also engaged in self-conducted work as an independent learner using The Shakespeare Plays.

Professionally, Gross has monitored the media in education for over a decade, beginning with the 1966 report for the Fund for the Advancement of Education, "Learning By Television" (coauthored with Judith Murphy). He served as associate director of the Commission on Instructional Technology.

Gross' earlier report on Open Learning systems was published by the Ford Foundation: "Higher/Wider Education: A Report on Open Learning." In 1976 he was commissioned by the U.S. Office of Education to write the American Education Bicentennial Essay on lifelong learning, "A Nation of Learners." He wrote the official interpretive report of the 1977 National Conference on Open Learning and Nontraditional Study and for the last two years has written such summaries for the annual National Conference on Adult Education.

Gross is a principal contributor to *Communications Technologies in Higher Education*, a book of case studies funded by the Ford Foundation. His two-part study of consortia for the production and the cooperative use of telecourses was published recently by the Society of College and University Planners.

Last year Gross visited educational technology projects in Israel, Thailand, and Bangladesh for the Rothschild Foundation and the U.N. Children's Fund. His other books include *The Lifelong Learner, Radical School Reform, Will It Grow in a Classroom?*, and *High School*.

Mr. Gross' current affiliations are: Adjunct Associate Professor of Social Thought, New York University; Senior Consultant, Future Directions for a Learning Society, The College Board; Director, Writers in the Public Interest; and Senior Consultant, Academy for Educational Development.

Part VII

APPENDICES

A. BASIC DATA ON SEVEN PARTICIPATING PROJECTS

1. The Appalachian Education Satellite Program (AESP) and the Community Service Network (CSN)

A. Background on AESP

Historically, those who could perhaps benefit most from the advancements in educational technology have been among the last to receive them. Instructional television, for example, while passe to some and vastly unexplored as a resource tool by most educators, has been an impossibility for many areas of Appalachia that are mountainous and sparsely populated. Impoverished communities in these remote areas often cannot afford the extraordinarily high cost of conventional landline routes. A viable alternative to this problem has been realized through the use of communications satellites.

The Appalachian Education Satellite Program (AESP), a regional telecommunications network, was created to meet many of these concerns. For much of this decade, AESP has been at the cutting edge in experimenting with alternative education delivery systems and the use of communications technology. The program was initiated in the early 1970's as a result of two concurrent events: (1) the identification by the Appalachian Regional Commission (ARC) of a significant need for in-service training of teachers in Appalachia and (2) the launching by the National Aeronautics and Space Administration (NASA) of an "applications technology satellite" that encouraged various scientific, technical, and educational experiments to demonstrate how communications satellites might be used.

AESP began its initial phase (1973-75) as an experiment designed jointly by local public education institutions and the ARC. The objective of the experiment was to test the effectiveness of satellite systems in delivering courses in diagnostic and prescriptive reading instruction and career education to Appalachian educators. This was achieved by a planning process that emphasized local input and needs assessment to assist in the design, development, and delivery of courseware responsive to those needs.

The result of the experiment was several high quality graduate courses broadcast via satellite to teachers dispersed over a large rural geographic area. Approximately 1,200 educators received graduate credit from 13 institutions of higher education. Although the experimental nature of the AESP limited somewhat the scope of the program (e.g., numbers of courses, receiving sites, and participants), this phase of the AESP proved remarkably successful. The evaluation data obtained in this phase revealed that the technology had proven acceptable and dependable, that, as a result of course participation, participants had demonstrated cognitive and affective gains and had responded positively to the design of instruction, and, finally, that the costs of course delivery were comparable to those of a traditional university level graduate course. (See AESP Technical Reports Nos. 1-12 for further detail.)

Thus, AESP achieved its stated experimental objectives: (1) to test whether high quality courses could be centrally developed with maximum input from region-wide institutions, meeting the needs of a diverse audience of teachers; (2) to develop and test an instructional design whereby satellite and non-satellite delivered activities could be effective in terms of learning and participation and could be administered locally by a facilitator rather than by a content expert; and (3) to determine whether accreditation would be offered by diverse local institutions of higher education for a "regional" set of graduate courses.

In addition, the AESP demonstrated (1) the technological effectiveness of a communications satellite network that would deliver high quality video programming with two-way audio interaction to low-cost earth stations and (2) a model for an emerging interagency management system that would insure greater understanding and maximum participation of the constituents.

This was achieved by a management structure that consisted of the AESP Central Office in the ARC's Education Division; the Resource Coordinating Center (RCC), located at the University of Kentucky; and the Regional Education Service Agencies (RESAs), located in the eight target states. (RESAs are confederations of school districts that share in providing educational services to local schools, such as in-service training, media services, and vocational education.)

As prime contractor and fiscal agent, the AESP Central Office provided a broad range of expertise, resources, and continual contact at the local, state and Federal levels. The Resource Coordinating Center was responsible for the planning, development, production, delivery, and evaluation of the courseware. At the local level the program was managed and implemented by groups of RESAs that provided a vital link with the community for the selection and development of programs.

Following the successful demonstration phase, the Appalachian Regional Commission and the National Institute of Education decided that the experimental results and experiences should be taken back to local and state institutions and that those agencies should be asked whether an ex-

panded experimental demonstration would be applicable to addressing their needs.

Thus, in 1975-76, AESP entered a planning phase in preparation for future expanded deliveries of education services. This phase was begun with a region-wide needs assessment. The results documented the continuing education and public service needs that might be served by a viable supplementary system such as AESP.

Specifically, the needs assessment identified continuing education program priorities in the areas of education, medical and health services, government, business and industry, and human resources. Through broadening its services to areas beyond education, AESP could better serve the needs of all Appalachian people on a more cost-effective basis by providing programs and services to a larger audience.

Based on the needs assessment results, AESP proposed to expand its network to include all 13 of the Appalachian states and to develop a four-year operational structure that would provide a wide range of public services, formal courses, and continuing education activities to the citizens of Appalachia. This plan was painstakingly developed with local and state officials and citizens providing the basic guidelines.

Early in 1977 the four-year implementation phase of AESP was begun. Since this project is based on a true Federal, state, and local partnership, the initial successes offer much evidence and great hope that AESP can affect significant institutional change and be an important part of the renaissance of rural America.

B. AESP Services and Impact

The period since inception of the AESP operational phase has been a time of enormous growth and expansion for the entire system. In addition to expanding the network by 200 percent—from 15 receiving sites to 45—significant strides have been made in the number, diversity, and quality of the program offerings.

Presently, AESP programming consists of formal university courses, workshops, and some teleconferencing of professional meetings. Credit is now available from 52 institutions throughout the region.

C. Community Service Network (CSN)

CSN has been established to continue, on a national basis, the Appalachian Education Satellite Program. The AESP was designed to demonstrate the feasibility of meeting community-service needs of the Appalachian region via satellite communications. Today, there are 45 earth stations serving more than 125 rural communities that receive programming via a non-commercial (NASA) satellite system. This system is, however, dependent on the ATS-6 satellite, whose life expectancy is limited.

Early in 1978, after reviewing various options, the AESP concluded that: (1) the program had made substantial social and educational contributions to the Appalachian area; (2) it should be continued; and (3) the most cost-effective distribution system was via commercial satellite, cable-television distribution.

Although satellite distribution through cable television appears to be the most cost-effective distribution mode, local taping and bicycling, over-air broadcasting, and other approaches are possible and will be utilized in other specific demonstrations. Also, because of satellite capability, program distribution is not limited to the 13-state Appalachian region, and CSN programming will reflect national needs and interests.

The programming and operating experience of the AESP staff make it uniquely qualified to select and distribute a variety of educational, instructional, public-service, and cultural programming.

Today, the Community Service Network is being designed to draw on this base of program and operational expertise, as well as to attempt to apply nationally many of the lessons learned by commercial and non-profit satellite distributors of programming to cable television systems.

The CSN will be supporting its efforts through a professional and low-key marketing campaign. This campaign will include trade-press advertising, activity at meetings and conventions, and other appropriate support.

By April 1979, sales and marketing activity (which preceded any formal announcements) had already solicited interest from over 130 individual CATV systems and over a dozen multiple-system cable operators who were interested in carrying CSN programming. "Spot" marketing calls (based on current AESP sites) were resulting in better than 75 percent sales.

2. Coastline Community College

ORIGIN: On February 25, 1976, the Board of Trustees of the Coast Community College District in Los Angeles unanimously approved the establishment of Coastline Community College as a comprehensive community college beyond walls. The college became the 104th community college in the state of California and the third in the Coast Community College District. Opening enrollment in the Fall of 1976 was 18,584, the largest opening enrollment of any college in the nation. The college was granted candidacy status by the Western Association of Schools and Colleges in June 1976 and was awarded full accreditation by the Western Association of Schools and Colleges in June 1978.

GOALS: Coastline Community College is committed to the basic philosophy that every individual shall have the opportunity for appropriate quality education up to the limits of his or her potential and that access to diverse educational opportunities shall be available to all adults who are interested.

ORGANIZATION: The organizational structure of Coastline Community College comprises five major components—the Office of Instruction; Admissions, Guidance and Information Services; Community Activities (operating under the Office of the President); Telecourse Design, and Administrative Services. Central administrative functions are headquartered in an administrative facility in the geographic center of the 105-square-mile Coast Community College District—the Coastline "campus."

This campus is divided into four geographic areas, each headed by an associate dean. Recognizing that there is a diverse mix of socio-economic factors in the district, the associate dean directing each area was charged to develop grass-roots contacts within the area and to develop instructional programs consistent with the needs of the population in the area.

The enterprise headed by these area associate deans may involve 350 classes, 5,000 students and 7,000 enrollments. Classroom instruction is offered in 127 locations throughout the community campus. During the Spring 1979 semester, 1,254 classes were offered in these community campus locations, sites which include neighborhood schools, churches, commercial business buildings, civic buildings, community clubhouses and senior citizen centers. Instruction is also offered by broadcast television, videotape, in-plant, and independent study.

STUDENTS: Coastline Community College has in excess of 20,000 students attending during the current semester. Average student age is 34. Ninety percent are over age 21 and 66 percent are women. Most are attending part-time and most work full-time. *Telecourse enrollment is in excess of 4,000—an increase of 12 percent over last Spring and 17 percent over last Fall.*

OFFERINGS: Coastline Community College is a comprehensive community college offering degree, transfer, and general education programs as well as 28 occupational programs in such subjects as secretarial science, management and marketing, bank teller training, real estate, travel agency, energy management, petroleum technology, and others. There are 1,200 courses in the college curriculum, of which instruction is offered in about 530 this semester. The college offers 12 open broadcast telecourses, a course by newspaper, four videotape ACCESS courses and two business management "classroom in a briefcase" courses.

INSTRUCTIONAL STRATEGIES: It is the intention of the college to provide a diverse mix of courses in content and media, providing access to learning for individuals who would otherwise be disenfranchised from traditional campus-bound instruction through physical or situational circumstances.

DELIVERY SYSTEMS: Broadcast video, videotape, newspaper, in-plant courses, U.S. mail, telephone and classroom.

SUPPORT SERVICES: Central Instructional Media Center providing audio visual support and document reproduction, district computer center, use of public library system.

TECHNOLOGIES USED: Coastline Community College uses the full range of available telecommunications including a district-owned PBS television station and computer services.

RESEARCH AND DEVELOPMENT EFFORT: All areas of the college operation are subject to continuous review and research including community attitude surveys, student characteristics surveys, student questionnaires, socio-economic studies, student advisory councils, and curriculum and course review.

BUDGET: $5.1 million.

SUCCESS FACTORS: Inspiration and support by the Board of Trustees. Flexibility of the administrative structure. Dedication of college staff and faculty. Demonstrated need for the services the college provides.

CHIEF PROBLEMS: Fiscal constraints posed by Proposition 13. Resistance by some faculty members of sister district colleges.

MOST SIGNIFICANT DEVELOPMENT AND FUTURE PLANS: Award of full accreditation, and ongoing development of new telecourses.

3. Dallas County Community College District

ORIGIN: The ITV Center was created as a separate unit of the Dallas County Community College District in 1974. (See *ITV Close-Up: The First Six Years* for a complete history.)

GOALS: The ITV Center contributes to the achievement of the Dallas County Community College District: that is, serving in the best possible way the complex, varied, and ever changing educational requirements of a growing metropolitan community. The Center's more specific objectives include the following:

1. To create fully integrated learning systems using television as part of the delivery mechanism to serve the needs of distant learners in Dallas County.
2. To use the materials created in #1 in many different ways (for example, self-paced in learning centers, closed circuit, in classrooms as aids, in LRC's as supplements, etc.).
3. To distribute instructional systems and materials to other institutions of learning.

ORGANIZATION: The ITV Center serves the central administration function of implementing telecourses within Dallas County and distributing telecourses to other institutions. It also serves as the design and production agency for telecourses. Students in Dallas are enrolled in one of the seven District colleges and their teachers, tests, and grades are all part of that college and its activities.

STUDENTS: DCCCD usually enrolls from 3,000 to 5,000 students in eight long-term telecourses. The average age is 30. Most work at full- or part-time jobs outside the home. As of last year, more women than men enrolled in telecourses in Dallas.

OFFERINGS: All offerings are for college credit. Most are what might be considered "core curriculum."

Regular courses include composition, literature, humanities, business, psychology, government, American history, and earth science. We have also offered anthropology, ecology, personal finance, religion, and introduction to science.

INSTRUCTIONAL STRATEGIES: Most students are distant learners who work with print, people, and open circuit television. A carefully designed study guide ties everything together for the student. Many students work on-site in learning carrels with the TV elements. Though the design is different, the elements remain the same.

DELIVERY SYSTEM: Open circuit television, learning carrels equipped with VTR's, print, and some on-campus meetings, including orientations and tests.

SUPPORT SERVICES: An on-campus instructor for each course on each campus; a full range of campus services (counseling, Learning Resources Centers with print and non-print collections and assistance, test centers, etc.); telephone hotline (8 a.m. to 8 p.m. five days a week) through the ITV Center; other uses of the telephone, U.S. mail; ITV Center implementation on design and coordination; campus and course coordinators; research staff.

TECHNOLOGIES USED: TV broadcasts, telephone, audio tape, print, and computer.

RESEARCH AND DEVELOPMENT EFFORT: In addition to regular ongoing District research and evaluation efforts, a full-time researcher assists faculty and administrators to design and conduct various research efforts along such lines as student course evaluations, instructional effectiveness, marketing effectiveness, retention, attrition, student demographics, etc.

BUDGET AND SOURCES OF FUNDS: The ITV Center is a regular DCCCD operation. As such, it is funded primarily by the taxpayers of Dallas County, the state of Texas, and student tuition. Other revenues accrue from sales and leases of ITV Center productions. So far, we have not requested large grants from private or public funds.

SUCCESS FACTORS: (1) The Board of Trustees and top administrators of the District supported the creation of the ITV Center and continue to support our efforts. (2) The ITV Center works at winning and keeping the support of the on-campus faculties and staffs. (3) We take great care in the instructional design of each course—both in production and in implementation. (4) We take the student centered District philosophies seriously.

CHIEF PROBLEMS: We have more withdrawals than we'd like.

MOST RECENT SIGNIFICANT DEVELOPMENTS AND/OR FUTURE PLANS: We are designing our first radio course (a joint effort with NPR). We have just concluded a massive two semester (sixty lesson) series in American government in consortium with Coast Community College District, Chicago City Colleges, and Tarrant County Junior College District. We are entering into other consortium production arrangements, but we have also started design and production of a second semester of American history and an introduction to sociology.

DISTINCTIVE AND/OR VITAL ASPECTS NOT INCLUDED ABOVE: Instructional television is alive and growing in Dallas County Community College District. We are providing excellent instruction which serves a special student population

in a cost-effective way. We are able to produce excellent new courses with our own resources. We are continuously seeking and finding new uses for our materials, new flexibility for our students and potential students. The numbers of client institutions continue to grow. Though we are not satisfied because we know we can and will improve, we are committed and enthusiastic.

4. Empire State College

ORIGIN: Created as a separate unit of the State University of New York, 1971.

GOALS: To provide alternative off-campus approaches to learning, including "contract learning" programs leading to the college degree for students who cannot or do not want to study in a classroom setting.

ORGANIZATION: The academic program is offered through nine centers: six regional centers, the Center for Statewide Programs, the Center for Labor Studies, and the Center for Distance Learning. Direct administrative support services are provided through a Coordinating Center in Saratoga Springs with units headed by the president, executive vice president, and vice presidents for academic affairs and for administration.

STUDENTS: ESC currently enrolls 3,149 students, awarded 1,082 degrees in 1977-78 and has awarded 5,200 since 1972-73.

OFFERINGS: Students can negotiate individualized learning contracts, pursue structured independent study courses at home, join special groups for study, or take formal classes or other instructional or learning experiences in a diversity of institutions. Areas of study: arts, business management/economics, community and human services, cultural studies, educational studies, historical studies, human development, science/math/technology, social theory/social structure/change, interdisciplinary studies, labor studies. Degrees: A.A., A.S., B.A., B.S., B.P.S.

INSTRUCTIONAL STRATEGIES: Individual learning through contracts; use of some prepared self-study packages.

DELIVERY SYSTEM: Learning Centers around the state.

SUPPORT SERVICES: Through mentors, as described above.

TECHNOLOGIES USED: Phone, TV broadcasts begun September 1979.

RESEARCH AND DEVELOPMENT EFFORT: Office of Research and Evaluation has obtained grants from FIPSE, Exxon, and NIE. Central interest has been development of a comprehensive evaluation framework focusing on both learning outcomes and costs (PERC). In addition, characteristics of students, faculty, and programs have been studied in some 100 reports over six years.

BUDGET AND SOURCES OF FUNDS: Expenditures, 1978-79: $6,939,000 from the state; additional funds from FIPSE, Danforth, NIE, Lilly, Ford, Carnegie, NSF, Kellogg, and other state and local agencies.

SUCCESS FACTORS: Not available as such, but explored in various research studies of specific program aspects or components.

CHIEF PROBLEMS: Ditto, see Success Factors.

MOST RECENT SIGNIFICANT DEVELOPMENTS AND/OR FUTURE PLANS: Broadcast TV and radio courses to start Fall 1979; new Center to serve public agency employees; work with handicapped, distant learners.

DISTINCTIVE AND/OR VITAL ASPECTS NOT INCLUDED ABOVE: Advanced standing through award of credit for prior learning.

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5. Miami-Dade Community College Open College

ORIGIN: Created as a division of Miami-Dade Community College, Miami, Florida, 1972.

GOALS: To provide alternative learning opportunities for students who cannot or do not want to study in a classroom setting.

ORGANIZATION: The courses are offered through four campuses and three Outreach locations. The division is headed by a director who reports to the vice president for educational services.

STUDENTS: Today's *Open College* student is female (70 percent), white (80 percent), between 18-39 years of age (85 percent), degree seeking (77 percent), and enrolled part-time. The most dramatic change in this profile has been in the age range of 18-22, which has shifted from less than 10 percent of the total enrollment in 1972-73 to more than 30 percent in 1977-78. Much of this change can be attributed, in part, to an increased availability of basic general education telecourses.

**Comparative Statistics* (only major categories identified): Sex: male—30%, female—70%; Race: white—80%, black—19%, hispanic—2%; Age: 18-22—32%, 23-29—28%, 30-39—25%; Type of Classes: Open College only—3, Open College and on campus—6.

OFFERINGS: Courses are offered in the following subjects: anthropology, black history, business law, death attitudes, economics, English composition, horticulture, humanities, mathematics, religion, psychology, science, and self development.

INSTRUCTIONAL STRATEGIES: Open College courses are media-based instructional systems that combine broadcast radio, television, or audio or videotape with integrated print, interaction, and computer "feedback."

DELIVERY SYSTEM: The student uses media, textbooks, print materials, and RSVP, a computer-based student/faculty interaction system.

SUPPORT SERVICES: Campus-based admissions, registrations, bursars, counseling, advisement, and audiovisual and library services.

TECHNOLOGIES USED: Television, radio and newspaper, instructor telephone office hours, and computer-based instructional management.

RESEARCH AND DEVELOPMENT EFFORT: "Drama: Play, Performance, Perception," "The Long Search," "Man and Environment," "Ascent of Man," "The Art of Being Human," and "Roots."

BUDGET AND SOURCES OF FUNDS: Institutionally funded at approximately $350,000 per year.

SUCCESS FACTORS: Project stresses high quality in courseware to make viewing compelling. Project offers "TV+"—supports student learning through other materials.

CHIEF PROBLEMS: Inadequate audience and marketing research, leading to wrong major production or acquisition decisions. Incomplete communication with campus-based faculty or with cooperating colleges or clients. Failure to involve and retain the disadvantaged.

MOST RECENT SIGNIFICANT DEVELOPMENTS AND/OR FUTURE PLANS: The development of the humanities course, "The Art of Being Human," and the development of a more heterogeneous student body.

DISTINCTIVE AND/OR VITAL ASPECTS NOT INCLUDED ABOVE: The use of the computer-based faculty/student interactive system called RSVP (Response System with Variable Prescriptions).

6A. University of California at San Diego (Courses by Newspaper-CbN)

ORIGIN: Courses by Newspaper (CbN) was conceived in 1972 as a new and innovative way of bringing important educational programs to a broad segment of the adult population that could not attend classes on a full-time basis. It proposed to use the nation's newspapers—a previously unused resource for structured adult education—as the delivery system for the mass education component of its programs; in addition, it would create a network of affiliated colleges and universities to offer credit courses based on the newspaper series and utilizing supplementary learning materials.

GOALS: (a) To offer exciting, informative news features on significant and timely subjects to millions of newspaper readers. (The articles in the 15-part series for each course are written by scholars and experts in the field.) (b) To provide supplementary materials—a reader, study guide, audio cassettes—to enable interested readers to pursue the subject matter in greater depth. (c) To create materials that enable participating colleges and universities to offer credit or noncredit courses for persons wanting a more formal educational experience. (d) To encourage community colleges, libraries, civic organizations, church groups, etc., to plan local forums and discussion groups on the CbN topics.

ORGANIZATIONS: CbN is administered from its offices at University Extension, University of California, San Diego. Administration and planning of CbN are under the supervision of the Project Director, Dr. George A. Colburn, with Jane L. Scheiber serving as editorial director. They are assisted by a six-member staff. A nine-member National Board of scholars, college administrators, and editors selects course topics and the scholar to coordinate each course and approve course outlines and authors of the newspaper series. The Board also approves the newspaper articles prior to publication. A Faculty Committee of five University of California professors reviews the other educational materials to assure high academic standards and a balance of viewpoints. CbN distributes materials to newspapers nationwide free of charge. Colleges and universities sign up with CbN to participate in the program, but they set their own course requirements, fees, etc.

STUDENTS: CbN materials are aimed primarily at the adult learner, although the programs are used in some high schools. An average of 5,000 students have enrolled for each of 10 CbN offerings to date. Students tend to have had some college education and to be in the 31-50 year age bracket. Somewhat more than half the students are working toward a degree, while one-third enroll for personal interest and the remainder for professional advancement. In addition, approximately 5 million persons read the newspaper articles weekly, and many thousands attend CbN-related community programs.

OFFERINGS: CbN offers two courses per year, in September and January. The courses are interdisciplinary with some focus on the humanities. Courses offered to date are "America and the Future Man," "In Search of the American Dream," "American Issues Forum I: The Making of American Society," "American Issues Forum II: The Molding of American Values," "Oceans: Our Continuing Frontier," "Moral Choices in Contemporary Society," "Crime and Justice in America," "Popular Culture: Mirror of American Life," "Taxation: Myths and Realities," and "Death and Dying: Challenge and Change."

"Connections: Technology and Change" and "Energy and the Way We Live" are scheduled for 1979-80. For each offering, there is a series of newspaper articles, a book of readings, and a study guide. Audio cassettes and a source book for community leaders and instructors are available for most courses.

INSTRUCTIONAL STRATEGIES: Because it is a nontraditional program, CbN offers materials that can be used with a minimum of classroom instruction, although participating colleges/universities are required to hold at least two "contact" or classroom sessions per course. The books of readings contain introductory materials that give background to the articles and set them into a meaningful context; the study guides provide review and self-test questions.

DELIVERY SYSTEM: Newspaper articles and illustrations are delivered free of charge to all participating newspapers; the articles are carried over the wires of United Press International (UPI) and are available from CbN in scanner-ready form. CbN also provides newspapers and academic institutions with complete promotional materials. Books are distributed by the publisher and are available at bookstores or by direct mail order.

SUPPORT SERVICES: Individual participating colleges provide their own support services.

TECHNOLOGIES USED: UPI wire services, audio cassettes, radio and television.

RESEARCH AND DEVELOPMENT EFFORT: CbN conducts an evaluation of one course per year to determine readership and the profile of newspaper readers and students and to evaluate quality of materials, etc.

BUDGET AND SOURCES OF FUNDS: The annual CbN budget is approximately $600,000. The National Endowment for the Humanities has been the

principal funding source since the project's inception. Other supplementary grants have come from the Exxon Education Foundation and the National Institute of Mental Health. In addition, CbN receives $6 per enrollee from participating schools with enrollments of 10 or more and royalties from book sales.

SUCCESS FACTORS: CbN's success is attributable mainly to the fact that it has supplied both newspapers and colleges/universities with materials that are highly attractive to their constituencies. In addition, the costs to educational institutions and students have been reasonable. Each year since 1974 the number of newspaper and educational users has increased, reflecting CbN's ability to deliver usable materials to two very different institutions.

CHIEF PROBLEMS: Paper shortages and the high cost of newsprint have made selling the program to newspaper editors increasingly difficult. Coordination of schools and newspapers is sometimes a problem. Success has meant increased pressures on staff to serve a growing clientele.

MOST RECENT SIGNIFICANT DEVELOPMENTS AND FUTURE PLANS: The addition of a television series, produced by BBC and Time Life Films, to the CbN course "Connections: Technology and Change," makes the Fall 1980 offering a unique multimedia program, combining for the first time on a national scale a newspaper and television series. The Spring 1980 program on energy will be offered in cooperation with community forums planned by the American Association of Community and Junior Colleges, with funding by NEH and DOE. Also participating are the American Library Association, National Public Radio, the American Association of Museums, and other national organizations.

DISTINCTIVE AND/OR VITAL ASPECTS NOT INCLUDED ABOVE: Various spin-off projects at the state and local levels have been developed on the basis of CbN, using institutional or special funds such as State Humanities Council grants. Examples include newspaper series on state tax issues, a series on Great Lakes problems that ran in conjunction with the Oceans series, a New Jersey education consortium project that brought senior citizens and high school students together to discuss moral choices, local radio and television series, etc.

6B. University of California at San Diego (Telecourses)

ORIGIN: Courses from television originated at University Extension, University of California, San Diego, in 1973 with the decision to create educational materials to supplement Jacob Bronowski's book as a wrap-around course for the showing on public television of the BBC-produced series, "The Ascent of Man." The course was created with the help of Miami-Dade Community College. It led the way to the creation of a program called National Media Courses, which combined our interests in Courses by Newspaper with courses from television and the beginning interest in radio.

GOALS: National Media Courses were created to provide colleges and universities in the U.S. and abroad with an opportunity to offer, at little cost, superlative courses using one or more of the mass media as the essential element of instruction and drawing upon the academic and educational resources available to the University of California. This would be possible through the production of the necessary educational ingredients at UC San Diego Extension.

ORGANIZATION: With few exceptions, the staff for National Media Courses was drawn from the staff of University Extension, working on a part-time basis. Courses by Newspaper has a full-time staff supported by an NEH grant. Instructional design and marketing staff for courses from television also work full time. All of these activities report to Associate Dean Mary Walshok under the rubric of Academic Affairs.

STUDENTS: Since National Media Courses are marketed to colleges and universities, the students who attend do so as their students. The courses are organized by these cooperating institutions. They range in number from 10 to 50,000 per course and the number of participating institutions from 250 to 450.

OFFERINGS: On the television side we have developed wrap-around courses for "Perspectives on Effective Parenting" and, with Coastline or Miami-Dade, "The Ascent of Man," "Classic Theatre: The Humanities in Drama," "The Age of Uncertainty" (John Kenneth Galbraith), and "The Shakespeare Plays." We participated in producing the television programs as well as print materials for "Psychology Today" and "The Growing Years." In process are "Connections and Man" and "The Cosmos" as well as the second year of "The Shakespeare Plays."

INSTRUCTIONAL STRATEGIES: Our goal is to combine the best elements of instructional design with superlative academic resources in developing materials for our telecourses. We identify leading academics in the field(s) covered by a television series to work with our instructional designer and, where necessary, our writers in constructing print materials packages. We make a particular effort to build flexibility into our packages so that they may be adapted by individual instructors to the specific needs of their students.

DELIVERY SYSTEM: The delivery system is the Public Broadcasting Service and the associated public television stations or the individual stations operating independently for "syndicated" courses.

SUPPORT SERVICES: Institutions agreeing to cooperate in the offering of courses receive an administrative support package that contains information on course approval procedures, publicity and student recruitment, examination banks, and similar assistance.

TECHNOLOGIES USED: To date, technologies have been limited to broadcast television or films used in a similar manner. Other technology is under consideration, including microcomputers, video discs, satellite transmission, etc.

RESEARCH AND DEVELOPMENT EFFORT: We have conducted evaluation studies of several of our offerings, but limited budget has precluded our doing more than minimal research effort. We are continuously exploring the use of various instructional strategies in our materials and are working closely with a number of people in the University of California system in the application of emergent technologies to distance education.

BUDGET AND SOURCES OF FUNDS: National Media Courses were expected to be income producing or at least self-supporting, but they have not proven to be so. Now we only participate if "up front" funds are provided by a publisher or agency like the Corporation for Public Broadcasting.

SUCCESS FACTORS: The popularity of the medium and the excellence of the productions have contributed to the acceptance of this new kind of instructional television.

CHIEF PROBLEMS: Problems have been of three sorts: (1) financial, (2) trying to bring together entities that have no history of working together and little understanding of each other's concerns and limitations, and (3) lack of control over the times and dates programs will be broadcast.

MOST RECENT SIGNIFICANT DEVELOPMENTS AND/OR FUTURE PLANS: Since we started with National Media Courses, it has been our hope to combine television and newspaper courses into one offering. The reinforcement of the use of two popular media seems likely to produce even better results. This will come to pass this fall with the offering of the BBC-produced television series on the history of technology called "Connections." There will be a simultaneously published newpaper series covering the same general areas.

DISTINCTIVE AND/OR VITAL ASPECTS NOT INCLUDED ABOVE: The nine national studies currently being undertaken will improve our ability to interest and retain students in National Media Courses. Thus, their acceptance should improve.

7. University of Mid-America (UMA)

ORIGIN: Incorporated in 1974 as a nonprofit education organization by consortium of five Midwestern public universities; followed R&D effort in Nebraska (SUN).

GOALS: Design and production of mediated course packages; encouragement of delivery of mediated opportunities by existing colleges and universities and dissemination of research results.

ORGANIZATION: Organized and governed under auspices of Board of Trustees, comprising presidents of 11 consortium member universities and six lay Trustees selected at large. Central staff in Lincoln, Nebraska, headed by President, includes programmatic divisions of Research, Academic Planning, Course Development and Marketing. Delivery decentralized in UMA region through state systems operated by member universities.

STUDENTS: Within the seven-state UMA region, enrollments have totaled slightly less than 12,000 since 1974-75. Spring 1979 enrollments totaled 1,800.

OFFERINGS: UMA-produced course packages: "Japan" (two parts: "The Living Tradition;" "The Changing Tradition")—30 half-hours, plus print; "The Great Plains Experience"—6 half-hours, plus print; "Going Metric"—4 half-hours, plus print and home measurement kit; "Introduction to World Food Problems" —4 half-hours, plus print; "Foundations of American Nationalism" (with National Public Radio)—30 half-hours, plus print; "Jazz: An American Classic" (developed by the University of Minnesota, soon to be pilot-distributed by UMA)—10 half-hours, plus print; "Accounting I and II" (in revision)—13 half-hours, plus viewer notes and audiotapes; "Small Business Management" (in production)—10 half-hours; "Loosening the Grip" (alcohol education, in production)—11 half-hours, plus print; "Anyone for Tennyson?" (wrap-around) —16-20 half-hours, plus print; "Introduction to Symphonic Music" (no longer in distribution)—31 hours of audio, plus print and 2 test tapes; "Introduction to Psychology" (no longer in distribution)—15 half-hours, plus print.

In addition, delivery systems in affiliated states offer courses developed by other producers nationwide.

INSTRUCTIONAL STRATEGIES: Video, audio, texts, study guides, viewer guides, instructors manuals.

DELIVERY SYSTEM: Broadcast and nonbroadcast TV and radio; mails; learning centers; campus centers; libraries. Institutional members of the UMA consortium develop a broadcast delivery capability, generally statewide, using broadcast TV and/or radio, cable systems, and learning centers.

SUPPORT SYSTEMS: WATS telephone lines for academic advising and counseling; learning centers; library testing centers.

TECHNOLOGIES USED: TV, radio; satellite distribution to user institutions nationwide; studying use of videodisc; contemplating applications of computers; slide-tapes; programmed instruction.

RESEARCH AND DEVELOPMENT EFFORT: Division of Research and Evaluation conducts research and evaluation on continuing basis, including market research, demographic analysis, formative evaluation during product development and summative evaluation. More than 30 research reports disseminated nationwide and to some foreign nations in total of 10,000 copies.

BUDGET AND SOURCES OF FUNDS: Fiscal 1980 budget approximately $4.0 million (central staff operations only) of which $2.15 million provided by National Institute of Education; estimated delivery costs in member states total $1.8 million.

SUCCESS FACTORS: Course materials generally considered of high academic and media quality; learners reached represent clientele new to higher education; delivery systems developed in region generally direct result of UMA affiliation; acknowledged research leadership in Open Learning.

CHIEF PROBLEMS: Sustained funding at adequate level; enrollments generally lower than anticipated; course materials development slower than anticipated, generally due to lower levels of funding than desired, but partly due to high cost of TV production; difficulty in ascertaining real needs/motivations of learners; detachment from point of delivery; lack of public financial support for part-time learner.

MOST RECENT SIGNIFICANT DEVELOPMENTS: With appointment of President Donald R. McNeil in August 1978, new directions identified: more focus on learner and demand-oriented program selection; more cooperation in program development and production with consortium members in UMA region and other consortia elsewhere; greater attention to expanded sources of financial support through (a) grants and contracts and (b) marketing revenues.

B. FACTORS THAT HELP OR IMPEDE OPEN LEARNING PROJECTS

One of the original objectives of this paper was to probe those factors that seem to make for success or for difficulties (sometimes leading to failure) in Open Learning projects.

Early on, however, it became clear that such an enterprise itself presented difficulties that might lead to failure.

First of all, such direct comparsions between the seven participating projects would be difficult to make without being misleading. The projects differ in essential underlying respects, including curricular goals, nature of their clienteles, and sources of funds and budgeting procedures. Some make basic decisions about curriculum on the basis of degree requirements, while others operate on a "Needs Assessment" model and create offerings to meet demonstrable student desires. Some serve a ready-made audience of students who are already enrolled and come to the campus for other courses, while others reach out to learners with no other connection with the institution. Direct comparsions would be odious and unenlightening where N=7 and the disparities between the projects are so major.

Moreover, it was learned that two other inquiries into this field, SCEPAL and the AACJC project directed by Marilyn Kressel, specifically address this problem. The SCEPAL project is looking at (among other things) "Success/failure in use of telecourses . . . factors which help or hinder station-college consortia which serve adult learners." The AACJC project is conducting case studies about "key factors believed to help or hinder station/college relationships." Penelope Richardson of USC is involved in both studies, which she envisages resulting in "a set of techniques for planning and operating a successful consortium of higher education institutions and broadcast stations."

Already these inquiries are producing intriguing hypotheses that are being checked out with experienced practitioners. Kiki Munshi of the SCEPAL project reports that initial responses to their survey reveal that:

> The most consistent response from stations and colleges to the question "Why are telecourses successful in this area?" has been "strong and effective leadership." Penny Richardson identified commitment of leaders as a key factor in the successful operation of consortia; it is clearly necessary for the successful operation of telecourses in a single institution as well.
>
> The "other reasons" we encountered were in many forms and varieties, but centered on meeting the needs of particular audiences and on competent administration. Station responses included: properly identify community needs and target programs to those needs; provide enough publicity; involve stations with telecourses; have competent coordinator and station interested in education; have good television programs with courses whose content is the same as is available in the classroom. Responses from the colleges included: strong student support services; flexible faculty; quality programs; successful learning experiences.

Given this work, which will provide insights based on actual site visits, interviews, and other research, it was clear that the most useful listing that could be presented in this paper was one developed from a wider data base than the seven participating projects. The following listing is one investigator's collation of informal, but informed, opinions from leaders of major projects in the field, including these seven and others, such as the British Open University and Chicago's TV College, plus the findings developed by Educational Facilities Laboratories for the Society of College and University Planners.

SOME "SUCCESS FACTORS" IN OPEN LEARNING PROJECTS

Open Learning projects frequently attribute their success to the presence of several or most of these factors:

- **Project addresses specific, clearly defined, and well-researched learners' needs.**
- **Project focuses on the learning process** rather than being fixated on technology.
- **Project identifies a potentially reachable student body,** sometimes including students already being served through on-campus courses.
- **Project provides credit and degree incentives** by making courses sequential and leading toward degree.
- **Project stresses high quality in courseware** to keep down costs of new production, but vigorously adapts it to meet local needs and style.
- **Project offers "TV+"** to support student learning through other materials.
- **Project includes a first-rate communications/support system for distance learners.**
- **Project decides on hardware acquisition wisely,** with good advice and stressing flexibility.
- **Project cultivates institutional support** on the campus as a whole or on the member campuses in the case of a consortium, especially among the top administration and the mainstream of the faculty.
- **Project develops good cooperative arrangements with broadcast outlets.**
- **Project is part of consortium** to cooperate for production and/or distribution to share costs, talent, promotional efforts, know-how, resources, etc.
- **Project has diverse sources of funding.**

SOME DIFFICULTIES IN OPEN LEARNING PROJECTS

Open Learning projects frequently attribute their difficulties, problems, and outright failure to the presence of several or most of these factors:

- **Inadequate audience and marketing research,** leading to wrong major production or acquisition decisions.
- **Inadequate promotion.**
- **Inadequate communication** and support services for distant learners.
- **Inadequate staffing** for instructional services.
- **Inattention to attribution** and student confusions.
- **Over-reliance on TV broadcasts** to carry the burden of instruction.
- **Unavailability of "front money"** for course production.
- **Premature commitment to produce** or use a major course before sufficient experience has been developed in using telecourses and in working with the technology and the organizational problems.
- **Failure to meet high quality standards** in broadcast materials.
- **Failure to adhere to production schedules,** especially by faculty members involved in consortium-production enterprises.
- **Low marketability** of produced courses to other institutions.
- **Poor communication** with the rest of the faculty or with cooperating colleges or clients.
- **Failure to involve the disadvantaged.**
- **Lack of suitable and/or predictable broadcast times.**

C. EXECUTIVE SUMMARY OF JOINT UMA-NIE CONFERENCE ON RESEARCH NEEDS IN ADULT LEARNING

March 8-9, 1979

Sponsored by:

University of Mid-America

and

National Institute of Education

In March of 1979, the University of Mid-America (UMA) and its primary funding agency, the National Institute of Education (NIE), invited six adult education research specialists to help define research that UMA might undertake over the next few years. UMA is a five-year-old consortium of 11 public universities in seven Midwestern states.

The task before the Arizona group was to propose a research agenda for UMA. As a first step, participants discussed studies already made of "distance learning." UMA had been created to provide learning opportunities to adults who might not want—or be able—to take college-level courses in customary settings. Television, audiocassettes, workbooks, and other means to reach adult learners at home are used in UMA-developed instructional packages.

The six panelists recognized that considerable research related to distance learning has already been done, by UMA and by adult education specialists elsewhere. These studies should be analyzed soon, the group felt, to see what applications they might have to UMA's work in the near future. This analysis would show where "researchable gaps" exist and what topics to avoid because they have already been studied extensively.

Other realizations helped shape the discussions. One was that UMA is unique among institutions specializing in distance learning. UMA, panelists observed, should build on this uniqueness in planning suitable research. Said one participant about UMA: "There's probably nobody in the country any better equipped to contribute something about distance learning."

The panel also concluded that UMA's research agenda should focus on what can be completed in a short time—probably within two years. Further, UMA should limit the number of its projects. A "manageable" list, one member observed, would include four to eight studies.

Building the Research Agenda

Possible UMA research fell into three categories: the adult as learner, program development, and administration and organization. Within each area, a variety of options was presented.

Under the heading of the *adult as learner*, UMA was urged to concentrate on the distance learner as a matter of first priority. This research should include informed questioning of the individual enrolled in UMA's program, and of the adult not yet committed to distance learning. This body of research should seek more information about the involved adult students, why they choose to learn through distance learning, and what they want to learn. UMA was urged to continue studying the demand for its services, especially among men and women who have not demanded them at all.

Research on two distinct learner types was recommended. One project would investigate the individual openly enthusiastic about being in the UMA program. A second would focus on the person who leans toward learning what UMA offers, but who will not accept TV as a way of reaching his or her academic goal.

Further, building on its location in the Plains states, UMA ought to study distance learning in rural settings. As a related task, it could investigate how urban and rural adult learners are alike and where they differ.

In the area of *program development*, panelists proposed that UMA look into how the teaching-learning transaction bears on that development process—from the earliest step of needs assessment through analyzing responses to instructional opportunities. UMA should research the choice of elements in the package of learning materials to see how many learners use which specific items and why. Investigators might look at how various arrangements of media, materials, and delivery meth-

ods work in different settings.

The panel strongly favored continuing the evaluation of UMA's produced materials. This would point up any inadequacies and how they might be resolved.

Under *administration and organization*, the participants clustered a group of topics. UMA should study its internal procedures. It should also evaluate its research staff, which several observers in Tucson considered to be of a high order.

Looking out ward, the panel advised UMA to review its relationships with member institutions of the UMA consortium. There should be an assessment of whether enrollment in UMA courses might have kept students from taking regular courses at participating institutions.

The procedures of other distance learning systems should be analyzed for their possible bearing on UMA's practices. How these agencies design and produce distance learning materials, it was noted, could be of real value to the University of Mid-America.

The panel members encouraged UMA to capitalize on the distance learning research already available. Against the background of that research, the men and women meeting in Arizona counseled, UMA should do a small number of studies of its own, from which it could expect "convincing results" in the next two years.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1980 O— 621-395/940 REGION 3-1

FUTURE DIRECTIONS FOR OPEN LEARNING

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